PRESERVATION

OF

SIGHT.

LAURENTIUS

SUPPLET.

1599.

1933

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DU LAURENS

1855 **MEDICAL.**—A DISCOVRSE OF THE PRESERVATION OF THE SIGHT: of Melancholike diseases, of Rheumes, and of old age, composed by M. ANDREAS LAURENTIUS, ordinarie Phisition to the King, and publike professor of Phisicke in the Vniuersitie of Mompelier, translated out of French into English, according to the last Edition, by RICHARD SVRPHLET, Practitioner in Phisicke *At London, imprinted by Felix Kingston, for Ralph Jacson, dwelling in Paules Church yard at the signe of the Swan,* 1599. Quarto, *russia extra,* £6 6s

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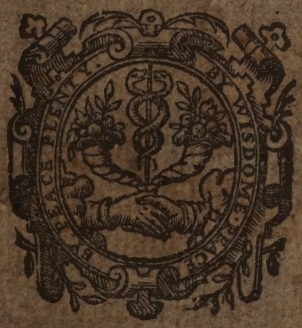
A DISCOVRSE OF THE PRESERVATION OF THE SIGHT: of Melancholike diſeaſes; of Rheumes, and of Old age.

Compoſed by M. Andreas Laurentius, ordinarie Phiſition to the King, and publike profeſſor of Phiſicke in the Vniuerſitie of *Mompelier.*

Tranſlated out of French into Engliſh, according to the laſt Edition, by RICHARD SVRPHLET, *Practitioner in Phiſicke.*



AT LONDON
Imprinted by FELIX KINGSTON, for RALPH IACSON, dwelling in Paules Church yard at the ſigne of the Swan. 1599.

TO THE RIGHT HONORABLE SIR THOMAS WEST KNIGHT, LORD LA WARE, and the right vertuous Ladie Anne his wife.

IT hath been vſuall and accuſtomed (Right Noble and worthie Sir) in all ages, and amongſt all ſorts of people (though otherwiſe neuer ſo rude and barbarous) to adorne and eternize the manners, liues, conuerſation, geſts, birth and ſayings of their famous and renowmed, with monuments either openlie and in liuely ſort contayning and ſpecifying the ſame: or more cloſely and ſecretly inſinuating as much, that ſo the praiſe and fame thereof might remaine and liue throughout all ages. The courſe was good and commendable; for ſo the excellent and renowmed deceaſed had but his due: the excellent and renowmed liuing, a glorious and beautifull ſpectacle, to ſtirre them vp vnto couragious and vndaunted perſeuerance in ſtill making vſurie of their excellencie: and the baſe, vile, and abiect perſons (the ſpots and blemiſhes, yea the puddle and mudpit) of actiue, pregnant, and nimble nature, might rouſe themſelues from the lolling bed of their continuall ſnorting and dead ſleepe. I meane not to blazon and decipher particularly, and from point to point the originall & antiquitie of your Nobilitie: The vprightnes, innocencie, mildnes, humanitie, bountifulnes and loue, in matters concerning your owne priuate affayres and buſineſſes, wherewith your Honorable condition is richly ſet and garniſhed. (The vehement ſuſpition of vndermining flatterie, the diſcontenting of your affections leaning to the contrarie, and the ſtirring vp of aduerſarie emulation and repining enuie vtterly diſſwading me). Neither yet doe I meane to proclaime and lay abroad your faithfulnes in the actions of Iuſtice, your wiſedome in the diſcerning of things

necessarie, and swaying of matters most conueniently for the weale publique, or your prowes and valorousnes in warlike feates and Martiall affayres; howsoeuer the cause of God, your Prince and Countrie: your birth, Dignitie and leisure, hath (I doubt not) put both you and many other godly and religious Noble men within this Realme in minde thereof, and stirred you vp amongst other your godly cares and studies, to striue to become able and worthie, if her sacred Maiestie should at any time call you or them vnto the same. But leauing all these and whatsoeuer other praises, that might iustly be giuen to the manifold vertues, shining both in your selfe, as also in your Honorable Ladie, holding out the markes of a good profession in the loue of the trueth, with sobrietie, modestie, and a good conuersation (notwithstanding the seas of sinne roring round about, and ouerflowing almost all estates and persons) and that so cleerely in the eyes and mindes of all such as doe not willingly winke, and couer the bright light of inward touch, with the vaile of wilfull senceles nes: my onely indeuour and drift is to intreate your Honors to receiue with fauourable acceptation and good liking these first fruites of my publique labours, as vndertaken for the good of all: so especially dedicated and deuoted vnto your particular seruice and vse, not so much in respect of any your present necessities, through any infirmities that I am priuie vnto, as to make way for the shutting out of such, as hereafter might creepe vpon you to your vntimely annoyance, assuring my selfe that in the reading thereof you shal finde a well stored treasurie of rich and rare Iewels, and in the practising of it, the comfort of health and contentation in satietie of daies.

Which the Ancient of daies, with all increase of Honor, wealth, and pietie graunt and giue vnto you, and all your succeeding posteritie.

Your Honors most vnfeignedly affected:

RICHARD SVRPHLET.

To the Reader.

CONsidering (gentle Reader) the lamentable times and miserable daies, that are come vpon vs in this last and weakest age of the world, partly by reason of the commonnes and multitude of infirmities, partly by reason of the strangenes and rebellioustes of diseases breaking out more tediously then heretofore: and considering herewithall how apt and prone the multitude and common people are to affect, nay (which is more) to dote vpon and runne after the painted crew of seeming Phisitions and pratling practisers both men and women, gathering their skill, honestie and most precious secrets, from the rich mines of brasen-faced impudencie and bold blindnes: I could not but admonish thee, as thou tendereſt thy health and wealth, to auoide such noisome vermine and deepe deceiuers. And on the contrarie, I can but exhort and stirre thee vp to buy and reade this and other such like treatises, that so thou maist be the better prepared, (though not to take vpon thee the cure of thine owne or others their sicke estate) to discerne betwixt the ignorant and the learned, and the skilfull in word only, and those which are skilfull in deede. As also that thou maist bee the better able to manifest and make knowne by word or writing the state and true condition of thy disease, vnto the profound and long studied in that profession, who for the keeping of a good conscience and thy welfare, haue not spared their bodies or goods, or refused any good meanes, whereby they might become fit to furnish thee with wholesome counsaile and due relieſe in the daies of thy distresse. Here shalt thou finde by serious suruay, great dimensions within small and narrow bounds. This volume shalt thou finde stuffed

full of Phisicke, as teaching by the lesser, what is to bee conceiued of the greater: and by a few, what is to bee followed in many. Full of Philosophie, as not resting in the things of the bodie, but deeply and diuinely laying open the nature of the soule. Herein is contained not onely great plentie of precepts, but also many controuersies of great moment and difficultie, sharply and pithily decided: and that with such varietie of authoritie, as is not almost in any other to bee found. This treatise shalt thou finde full of pleasantnes, as both the store of histories, and meanes of dispelling the mournfull fantasies of melancholike moodes, doe giue thee to conceiue: full of delight as maintaining the sight, the conductor and conueier of delights vnto the minde: full of healthfulnes, as teaching the way to auoide the rheume, that pregnant mother of so many maladies. And finally full of instruction and reliefe for the mitigating of the annoyances and inconueniences of drouping old age, as shewing the maner how to square out and pitch downe the firme and durable props of the continuing and long inioying of strong and lustie yeares. Which if thou striue and seeke accordingly to attaine, then shalt thou be the better able to discharge the duties of thy calling whilest thou liuest, and purchase to thy selfe a million of good witnesses, to reioyce and glad thy hart withall in the day of thy death and dissolution.

Farewell.

TO THE NOBLE LADIE, MADAME, DVTCHESSE OF VZEZ, AND COVNTESSE OF TONNERA.

MAdame, since the houre that I had the hap to become knowne vnto you, you haue done me the honour as to commit your health altogether into my hands, and to vouchsafe me as great credit, as if I had been a second *Æsculapius*. This affection and goodwill, which I acknowledge to proceede more of your kindnes and naturall inclination, then of any deserts of mine, haue so preuailed with me, that neither the loue of my country, nor the number of my friends, which was not small, nor the honourable place of publique Lecturer, which I discharged with sufficient commendation in one of the most famous Vniuersities of Europe, could stay or hinder me; but that passing ouer all difficulties, and breaking all these bonds, I haue intirely and wholly deuoted my selfe vnto you, and haue followed you, whereseoeuer it hath pleased you to commaund me. I haue wherein I may exceedingly praise my selfe, and as hitherto to rest contented with my fortune, which hath been so fauourable vnto me, as to make all my seruice profitable and well liked of, I am verely perswaded Madame, that it was Gods will to vse me as the meanes for the lengthening of your yeares, and making of your old age more blessed and happie. You haue had sufficient triall thereof within these two yeares: for being very forcibly assailed with three of the most violent and extraordinarie diseases that euer man hath seene, and which were strong enough to haue shaken the best complexion in the world, and to haue spilt the prosperous estate of a more flourishing age then yours, yet you haue not felt any eclipse of your vigour and lustines. This is of

God

God alone,(which hath opened my vnderſtanding to finde out fit remedies,and himſelfe to giue good ſucceſſe thereunto) to whom I am bound to render all glorie. There now remaineth in you onely your three ordinarie diſeaſes, which I labour to vanquiſh day by day, by obſeruation of good Diet, and ſuch gentle medicines as are no way able any thing to alter and hurt the good diſpoſition of your naturall conſtitution. In your right eye, you haue ſome ſmall beginnings of a Cataract, but the other is perfectly ſound. You feele at certaine times ſome touches of the windie melancholie, but ſo ſleight, as that they vaniſh away like the ſmoke. The thing that is moſt tedious and troubleſome vnto you, is thoſe pettie diſtillations and fluxes of humours which fall down vpon your eyes,teeth,armes and legges. Your ſpirit, which is able to conceiue of any thing in the world,be it neuer ſo rare & ſtrange, hath been very inquiſitiue to vnderſtand the cauſes, and to know from whence all theſe accidents ſhould proceede, which I haue oftentimes ſpoken largely of, and that both in vulgar and common ſpeeches,as alſo in the artificiall and plaine tearmes of Phiſicke. In the end my reaſons became ſo well liked of by you,that (when you had withdrawne your ſelfe to the Abbey of *Marmonſter*,to ſport your ſelfe with the beautie of the place and goodnes of the ayre) you commaunded me to ſet downe the ſame in writing,and to cauſe them to come to light, vnder the ſhield of your authoritie. I cannot with honeſtie denie it vnto you, howſoeuer yet it were meete, that ſo waighтie a matter according to the deſert, ſhould bee garniſhed with infinite varietie of authorities and proofes from the learned, which my memorie could not affoord, through my want of bookes. I haue therefore fitted vp and made readie three diſcourſes for you, touching your three diſeaſes: the firſt is, *Of the excellencie of the ſight, and the meanes to preſerue it:* the ſecond is, *Of windie melancholie, and other melancholike diſeaſes:* the third is, *Of Rheumes, and the meanes for to heale them.* And vnto theſe in the ende I haue ioyned a little treatiſe of Olde age, which may bee for your vſe againſt the time to come. For there is no ſhadow of reaſon why I ſhould as yet call you old, ſeeing you are not incombred with any of the infirmities of old age. For is not this one of the miracles of our age, to heare your com-

munication

munication so wise and graue, to see your vnderstanding and iudgement so sound and vncorrupt, your memorie so fresh and plentifull, and your sences so absolute, as that on your sound eye you vse to reade a farre off the smallest letter that any man can bring vnto you, without spectacles? Your hearing also continueth very easie and quicke, and your taste also as exquisite and daintie as euer it was: your heart so courageous and lustie, as that notwithstanding all the assaults that euer your windie melancholie could giue vnto it, yet it hath not been able at any time so to shake it, as that it could make it alter his course: your liuer so liberall, as that it ministreth store of blood more then is needfull: in so much as that we are cõstrained to cause you to tame it once a yeare. I will say nothing of the goodnes of your stomack, you your selfe know it well enough, hauing an appetite at euery houre, and disgesting whatsoeuer you bestow vpon it. Seeing then the faculties of the soule doe euery one of them so well execute and performe their functions and offices, can a man call the instrument thereof ouerworne or old? I am perswaded (Madame) that no man can call you old in any respect, if it were not that you are past fiftie, and that custome in accounts hath designed the first degree of old age to this number. You haue great occasions to praise God: for this long and happie life is a certaine testimonie of his loue, because the most excellent reward which he promiseth vnto them whom he loueth in this world, is, that they shall liue long vpon the earth. Cheere vp your selfe then Madame, you are but yet on the first step of your old age, which is ouergrowne with flourishing greene, and affoording an vndaunted courage; you haue other two behinde and remaining. God who hath giuen this strength vnto your bodie, and which hath honoured you with so gracious and good a soule, vouchsafe to make them as happie, as your Ladiship can wish or desire them.

Your most humble and obedient seruant:

ANDREAS LAVRENTIVS.

The Author to the Reader.

I Doubt not but these treatises are in danger to be euill spoken of, and bitterlie inueighed against by an infinite number of persons, which are borne for nothing else but to carpe and finde fault, before they be well knowne. Some Phisitions will finde themselues grieued, for that I haue made vulgar the secrets of our Art, and they will be able to alleadge that the Egyptians (which were the first inuentors of Phisicke) to the end they might not make so diuine and sacred a gift of God profane and common, did write their medicines in enigmaticall and vnknowne letters: but I will answere them with Aristotle, that a good thing by how much it is the more common, by so mueh it is the better, and that the Phisitions of Greece came once euery yeare into the beautifull Temple of Æsculapius, which was erected in Epidaure, to write in the sight of all the people, whatsoeuer rare and strange thing they had obserued in their patients. The naturall Philosophers, will be offended for that I now and then grapple with that great interpreter of nature, Aristotle: but they shall haue no other replie of me, thē that of Aristotle himselfe. Plato (saith he) is my friend, & Socrates also, but yet the truth is more friendly vnto me. I shall haue more to doe to satisfie them, which busie themselues with nothing else but faire speeches and proper tearmes: for without doubt they shall finde an infinite number of rude words, which may offend their too daintie and delicate eares: but if they will not consider how that I make it not my profession to write in French, yet I would haue them to hold me excused, because I am of opinion, as all other wise men are, that such curious sifting and hunting of words is vnworthie of a Philosopher, and that therefore I am contented (auoyding barbarisme, whereof I know they shall neuer be able altogether to condemne me)

so

so to speake, as that I may cause to bee vnderstood the thing whereof I intreate. And as concerning all those enuious and malicious persons which will not cease to barke at me though they know not how to bite me, I doe onely wish that they themselues would enter the lists and doe something themselues, that so I might see if they were as good in correcting as in carping. I am certainly perswaded that this my small worke will be accepted of all the Honorable: and it is to them that I frame and fashion my selfe, then boldly may I proceede vnder the shadow and couert of their wings.

QVæ de Oculis nuper Medicorum scripsit Ocellus
De Senio, & Succis, Senibus, cunctaque molestis
Æstuti, mira doctus Laurentius arte;
Surphlettus (tanto ne Gallia sola potiri
Thesauro possit) donauit veste Britanna.
Gallia ne inuideas, nec enim tibi nascitur vni
Laurus tam florens; nostri hanc coluêre Britanni.
Tu turpes oculi maculas Surphlette fuetus
e Artifici remouere manu; (non vltima laus hæc)
Nunc grato hoc multo melius noscêre labore.

F. Hering Med. Candidatus.

Idem de eadem Idiomate Anglico.

FAmous *Fernelius*, worthie heire *Laurentius*,
To whom that *Galen* of our age did dying leaue
His diuine Phisicke Muse 'mongst other learned works,
This treatise fraught with skill, did write in vulgar tongue
Of th' Eyes, Melancholie, Old-age, and troublous Rheume,
Which *Surphlet* famous for his art-taught cunning hand,
In cleering th' Eyes of spots, and noysome Catarrhacts,
(Least *France* the happie nurse and mother of great wits,
Should sole enioy this pearle) hath clad with English weede
A worke of worth for Councellers and men of great estate,
For Ladies, Students, such as vpon loue.
Hence base Quack-saluers, boasting *Thrasoes* loathsome brood,
Impostors, Parachymists, Latrons, Homicids,
Who blindly and boldly rush into that sacred Art,
Which none but *Phœbus* sonnes and Darlings of *Minerue*
Could euer rightly exercise: Hence, hence apace,
Pollute not with your filthie fists and pur-blind eyes
These golden Theorems, these skilfull Medicins:
For you poore sots (I wisse) the paines were neuer meant.

IN D. ANDREÆ LAVRENTII D. MED. TRA-
ctat. De conseruando visu: De Melancholia: Catarrhis: &
Senio; in linguam Calydoniam, per D. *Rich. Surphlettum*
traduct. Carmen Ἐπιφωνηματικόν.

HVmanum mala quanta premunt, quot monstra fatigant
Sedibus infernis eiaculata, genus?
Vertigo, Febris, Tussis, cum Peste Catarrhus,
Tabes, Syntexis, Stupor & Asthma, Bilis.
Hæc fera tartareis nos vexant monstra flagellis,
Nostraque funereo carcere corda premunt.
Hæc multos tetricas mittunt Acherontis ad undas,
Quos fouet in cunis torua Megæra suis.
Ergo Deus nobis languentibus obtulit artem,
Morborum tolli qua genus omne potest.
Artibus, huic nomen Medicina, *celebrior vllis,*
Sola leuat morbos, corpora sana facit.
Hac sine nulla salus, properantis munera vitæ
Prorogat, & longos dat Medicina dies.
Tu Surphlette pijs studijs addicte, peritus
Arte Machaoniâ, quam Deus ipse dedit.
Perge salutiferâ morbos depellere dextrâ,
Regnaque Plutonis fac populosa minus.
Sic te fama feret candentibus aurea pennis,
Sicque tui celebris fama laboris erit,
Inter honoratos Medicos numeraberis olim,
Te dicent Coo, Phylliridæque parem.

GABRIEL. POVVEL.

In eruditissimum D. Andr. Laurentij Tractatum
Anglicè versum, Ἀνασκευαστικόν.

DAs Surphlette tuis longeuæ munera vitæ,
Quid melius nobis viuere vita dabit?
Obstas ne stygij per lurida transtra Charontis
Ferali Parcâ corpora rapta migrent.
Cumque dolent homines, illis das rite valere
Astollens morbos. Pharmaca sana doces
Extremis obstare malis, Vitæque labantis
Arte grauescentes multiplicare dies.
Omnia quid referam? neque enim bona nouimus illa:
Deficis ars artes sat celebrare tuas.
Hac mortale genus, licet immortale videtur:
Si quid in hac vita, vincere fata valet.

EPHRAIM PAGIT.

In commendation of *M. Andreas Laurentius*, Doctor of *Phisicke, his Treatise of Sight, Melancholie, Rheumes, and Old age: Englished by M.* Rich. Surphlet.

IF thou desire preseruatiues for Sight;
If Melancholike sicknes thee annoy;
If noysome Rheumes thou wouldst auoyd outright;
If thy old age thou wouldst in health enioy:
Sith fading Sight, Rheumes, Melancholie, Age
Are vitall spirits harme, and lifes engage.

Loe here a souereigne salue for sickly Eyes,
A good restraint for Melancholies rage,
A drier vp of Rheumes that doe arise,
And a conseruer of declining Age,
For Darknes, Dumps, Catarrhes and forces faild,
Light, Mirth, Mercurie fixt, and Strength vnquaild.

Right worthy then thy praise O *Surphlet* flies
Through whirling ayre, as famous for thy art,
In curing of blind catarrhacted eyes,
And for this worke performed on thy part;
So that vnto thy labour and practise,
A two-fold praise most iustly doth arise.

Iohn Nut-hall Gent.

Roger Foxe Gent. to the Reader.

INgenious *Surphlet* finding in this worke
Such store of treasure in abstruse to lurke,
Thought he should doe his Country-men great wrong,
Had he it shrowded left in forren tong.
Wherefore in loue vnto his natiue soyle,
He tooke vpon him this laborious toyle.
Yet toyle no toyle, he doth the same account,
So kind acceptance to his hope amount.
Thank's all he craues, then cun him thank t'is small,
If he haue thankes he thinks it all in all:
The profit's yours, t'was his industrious taske
To pluck you off that strange disguising maske.

FINIS.

A TABLE OF THE CHAPTERS CONTAINED IN THIS DISCOURSE.

The first Discourse, wherein is handled the excellencie of the sight, and the meanes to preserue it.

That the braine is the principall seate of the soule, and that in consideration hereof all the instruments of the sences are placed round about it. Chap. 1.

How that the outward sences being the trustie messengers of the minde, are only fiue, and all of them placed without the braine. 2

That the sight is the most excellent of all the sences. 3

Of the excellencie of the eye the proper instrument of sight. 4

Of the composition of the eye in generall. 5

A particular description of all the parts of the eye, and first of the sixe muscles thereof. 6

Of the sixe coates of the eye. 7

Of the three humours of the eye, of the beautie and excellencie of the christalline. 8

Of the sinewes, veines, arteries, and other parts of the eye. 9

How we see, as whether it be by receiuing in or sending forth something. 10

How many waies the sight may be hurt. 11

A briefe rehearsall of all the diseases of the eye. 12

A generall and most exquisite order of Diet for the preseruation of the sight, in which is shewed very particularly all that may hurt or doe good vnto the eyes. 13

Choise remedies for the preseruation of the sight, and the order to be obserued in applying of them. 14

The second Discourse, wherein is intreated of Melancholie diseases, and of the meanes to cure them.

That man is a diuine and politique creature, hauing three speciall principall powers: Imagination, Reason, and Memorie. Chap. 1.

That this creature full of excellencie is now and then so abased and altered, by an infinit number of diseases, as that he becommeth like a beast. 2

Who those should be that are called melancholike, and how we ought to put difference betwixt melancholike men that are sicke, and those that are sound. 3

The definition of melancholie, and all his differences. 4

Of melancholie which is seated in the braine, and of all the accidents that follow it, and whence ariseth feare, sadnes, watchings, terrible dreames, and other accidents. 5

Whereof it commeth that melancholike persons haue particular obiects quite differing, whereupon they dote. 6

Histories of certaine melancholike persons, which haue had strange imaginations. 7

An order of diet for melancholike men, that haue their braine sicke. 8

How to cure such melancholike men, as haue the disease setled in their braine. 9

Of another sort of melancholie, which riseth of outragious loue. 10

The

11 *The meanes to cure those which are foolish and melancholie by reason of loue.*
12 *Of the third sort of melancholie called windie melancholie, and the differences thereof.*
13 *Of the signes of windie melancholie, and from whence the accidents which follow it, arise.*
14 *Histories worthie the obseruation, of two parties troubled with the windie melancholie.*
15 *Of the curing of the windie melancholie.*

The third Discourse, wherein is intreated of the generation of Rheumes, and how they are to be cured.

Chap. 1. *That the braine is the seate of cold and moysture, and by consequent the welspring of Rheumes.*
2 *What this word rheume doth signifie, what disease it is, and wherein his nature consisteth.*
3 *The differences of Rheume.*
4 *The causes of Rheume.*
5 *A generall order of diet to be obserued in Rheumes.*
6 *A generall methode to cure Rheumes.*
7 *The meanes to preserue the teeth.*

The fourth Discourse, wherein is intreated of Old-age, and how we must succour it.

Chap. 1. *That man cannot continue in one state, and that of necessitie he must waxe old.*
2 *A very notable description of old age.*
3 *An order of Diet to preserue the life long.*
4 *What ayre is to be chosen for the lengthening of life, and which is most fit for old folke.*
5 *Generall rules to be obserued in eating and drinking, therby to lengthen the life.*
6 *How we must in particular nourish old folkes, and with what victuals.*
7 *What drinke is most fit for old folke.*
8 *Of the exercises of old folke.*
9 *What rules are to be kept in sleeping.*
10 *How we must cheere vp and make merrie old men, putting them out of all violent passions of the minde.*
11 *What medicines are fittest for old folke, and by what skilfull meanes we may helpe to amend the infirmities of old age.*

THE

THE FIRST DISCOVRSE,
WHEREIN IS INTREATED OF THE excellencie of the ſight, and the meanes to preſerue it.

That the braine is the true ſeate of the Soule, and that for this occaſion all the inſtruments of the ſences are lodged round about it.

CHAP. I.

THE Soule of man (that moſt noble and perfect forme, that is vnder the face of heauen, bearing for a ſigne and token of his excellencie, the liuely and true image of the Creator) although it bee in all poynts like vnto it ſelfe, not conſiſting of matter, or ſubiect to any diuiſion, and by conſequent whole in all the bodie, and wholie in euery part of the ſame: yet the caſe ſo ſtandeth, that in reſpect of the diuerſitie of his actions, of the difference of his inſtruments wherewith it ſerueth it ſelfe, and of the varietie of obiects ſet before it: that it may ſeeme and appeare to the common people (after a certaine maner) to conſiſt of diuers parts. The Philoſophers themſelues ſeeing the nobleſt powers thereof to ſhine more in one place then in another, haue gone about to lodge, and (as it were) to bound the limits thereof within the compaſſe of one onely member: in like maner as the Diuines (carried away by the wonderfull things which more cleerely manifeſt themſelues in the heauens, then in any other part of the world) doe ſay that the heauens are the throne of God, although his eſſence bee infinite, incomprehenſible, and ſtretching it ſelfe

Diuers opiniõs of the ſeate of the ſoule.

through euery thing that is). For *Herophilus* beleeued that the Soule was lodged onely in the loweſt part of the braine: and *Zenocrates* (on the contrary) in the vppermoſt part therof: *Eraſiſtratus*, in the two membranes couering the braine, called of the Arabians, Mothers: *Strato*, betwixt the browes: *Empedocles*, ſuborned by the Epicures and Egyptians, in the breaſt: *Moſchion*, in the whole bodie: *Diogenes*, in the arteries: *Heraclitus*, onely in the circumference of the bodie: *Herodotus*, in the eares: *Blemor* an Arabian, and *Syreneus* a Phiſition of Cypers, in the eyes, becauſe that men in them as in a glaſſe, doe behold all the paſsions of the ſoule: but all theſe in my iudgement are nothing els but fantaſies and meere fooleries.

Ariſtotle his opinion.

There is a great deale more likelihood in the opinion of *Ariſtotle*, that great expounder of nature, who thought that the ſoule had his proper ſeate in the heart, becauſe that naturall heate, the principall inſtrument of the ſoule, is found in the heart, and this (ſaith he) liueth firſt and dyeth laſt, the onely ſtorehouſe of ſpirit, the originall of veines, arteries and ſinewes, the principal author of reſpiration, the fountaine and welſpring of all heate, containing within the ventricles thereof a ſubtile and refined blood, which ſerueth as a burning cole to kindle and ſet on fire all the other inferiour and ſmaller ſorts of heate, and to bee briefe, the onely Sunne of this little world.

The heauens and the heart finely compared together.

And euen in like ſort, as the heauens are the principals, whereon depend and reſt all other elemental generations and alterations: ſo the hart is the firſt and principall originall of all the actions and motions of the bodie. The heauens bring forth their wonderfull effects, by their motions, heate and influence: the heart by his continuall mouing (which ought no leſſe to rauiſh vs, then the flowing and ebbing of Euripus) and influence of his ſpirits, doth put life into all the other parts, endoweth them with this beautiful and vermilionlike colour, and maintaineth their naturall heate. The mouing and light which are in the ſuperiour bodies, are the inſtruments of the intelligences and of the heauens: of the intelligences as being the firſt cauſe of mouing in others, being themſelues immoueable: of the heauens, as firſt mouing the other, and being themſelues moued. The mouing of the heart and vitall ſpirit, which diſtributeth it ſelfe like vnto light, throughout, and that as

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it were in the twinkling of an eye, are the instruments of the mind and heart: of the minde, which is a chiefe and principall mouer, and yet not moued: of the heart, as of a chiefe and principall mouer which is moued of the minde. It is therefore the heart, according to the doctrine of the Peripatetikes, which is ỹ true mansion of the soule, the onely prince and gouernour, in this so excellent and admirable disposing of all things in the gouernment of the bodie. *Chrysippus* and all the Stoikes haue followed the same opinion, and doe beleeue that all that region which containeth the parts which wee call vitall, is named of the Grecians and Latines *Thorax*, because it keepeth within it, as it were vnder lock, this heauenly vnderstanding (so called of *Anaxagoras*): this burning heate, (so called of *Zeno*) replenished with a million of sciences: this admirable fire, which *Promctheus* stole out of heauen to put soule and life into mankinde: this altering spirit, whereof *Theocritus* made so great account. Behold how these Philosophers haue diuersly spoken of the seate of the soule. It is not my minde to bestow any time in the particuler examination of all these opinions, neither is it mine intent in this place to enter into any dispute, intending to content my selfe with the simple deliuerie of the trueth. For I assure my selfe that it shall be strong enough to ouerthrow all these false foundations. I say then that the principall seate of the soule is in the braine, because the goodliest powers thereof doe lodge and lye there, and the most worthie actions of the same doe there most plainly appeare. All the instruments of motion, sence, imagination, discourse and memorie are found within the braine, or immediatly depending thereupon. Anatomie manifesteth vnto our eyes, how that there issue out from the lower part of the braine seuen great paire of sinewes, which serue at a trice to conuey the animall spirit vnto the instrument of the sences, and doe not any of them passe out of the head except the sixt paire, which stretch out themselues to the mouth of the stomacke. We see also that from the hindermost part of the braine (where the great and little braine doe meete together) doth proceede the admirable taile, the beautifull and white spinall marow, which the Wiseman in his booke of the Preacher calleth the siluer threed, how it is carefully preserued within a sacred chanell,

That the brain is the principall seate of the soule.

The reasons to proue the same. The first.

as *Lactantius* calleth it. From the same, men see that there rise a million of little sinewes, which conuey the powers of mouing and
The second. feeling, vnto all such members as are capable of the same. Men doe also perceiue the outward sences placed round about the braine, which are as the light horsemen and messengers of the vnderstanding, the principall part of the soule. *Philo* saith, that when men come within the view of a princes guard, they thinke himselfe not to bee farre off: we see all the guard and seruants of reason, as the eyes, the eares, the nose, the tongue, to bee situated in the head: whereupon by consequent we ought to iudge that this
The third. princesse is not farre off. Experience also giueth vs to vnderstand, that if the braine haue his temperature altered: as for example, if it be too hot, as it falleth out in such as are franticke: or ouer cold, as it falleth out in melancholick men; it corrupteth presently the imaginatiue facultie, troubleth the iudgement, weakeneth the memorie: which is not incident in the diseases of the heart, as namely, either in a hectick feuer, or when a man is poysoned. The
The fourth. soule (saith that diuine Philosopher *Plato*) doth not please and content it selfe with that braine which is too soft, too close and compact, or too hard: it requireth a good temperature. If the proportion of the head be but a little out of square, so that it be either too great or too little, or too coppeld, as that which men reade of *Thersites* in *Homer*: or altogether round and not flat on the sides, as naturally it ought to be: men may perceiue all the actions of the soule to be depraued, and thereupon doe call such heads, foolish, without iudgement, without wisedome: all which ought to make vs as well to beleeue that the braine is as much the organe and instrument of all these actions: as the eye is the instrument of sight.

The fifth. Furthermore, this kind of round shape which is peculiar vnto mankinde, this head thus lifted vp to heauen, this great quantitie of braine (which is almost incredible) doth shew very well that man hath something in his head, more then other liuing creatures. The wise Sages of Egypt haue very well acknowledged the same: for they did not sweare by any other thing but by their head, they ratified all their couenants by the head, and forbad the eating of the braines of liuing creatures: for the honour and reue-

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rence sake which they bare to this part. I thinke also that the falling sicknes was not for any other reason called sacred of the ancients, but because it did assaile the soueraigne and sacred part of the body. Let vs then acknowledge the braine to be the principall seate of the soule, the originall of mouing and feeling, and of all the other most noble functions of the same. I know well that some curious spirits will aske me, how it can bee the author of so many goodly actions, seeing it is cold, and that the soule can doe nothing without heate. But I answere, that the braine hath not any particuler feeling, for that it being the seate of common sence, must iudge of all such obiects, as about which sence is occupied. But a good iudge ought to bee free from all passions, and euery organe (sayth *Aristotle*) must bee without qualitie, according whereunto agreeth that, that the christalline humour hath no colour, the eare hath no particuler sound, nor the tongue any taste. But and if it come to passe, that any organicall part decline from his nature, as if the christalline become yellow, all whatsoeuer presenteth it selfe to the sight of that eye, will seeme to bee of the same colour. As then the braine neither seeth nor heareth, nor smelleth nor tasteth any thing, and yet notwithstanding iudgeth very rightly of colours, sounds, smels and tasts: so neither was it any reason, that it should haue any particuler sence of feeling, which should cause it to feele the excesse of those qualities, which are tearmed the obiects of feeling and handling; it is sufficient for it to haue the knowledge and discerning thereof. As touching the other poynt, I affirme that the braine is in very deede hot, and that it cannot be called cold, but as it is compared with the heart. It behoued it of necessitie to bee of this temperature, that so it might temper the spirits which were of a fierie nature, thereby the better to continue the kindes of liuing creatures, and to preserue them long aliue. For and if the braine were as hot as the heart, there would day by day arise trouble and sedition amidst the noblest powers of the soule: all the sences would be straying and wandring, all the motions would bee out of square, all our discourses mixed with rash headines, and our memories very flote and fugitiue, euen as betideth vnto franticke ones. Let nothing then hinder vs from acknowledging the braine to bee the most

The cause why the braine feeleth not.

The cause why the braine is of such temperature.

noble part of the whole body. This is that magnificent and ſtately turret of the ſoule, this is that goodly royall palace, the conſecrated houſe of *Pallas*, this is the impregnable fort, enuironed with bones, as with ſtrong walles, wherein is lodged the ſoueraigne power of the ſoule, (I meane reaſon) which comprehendeth and compaſſeth as with imbracing armes, the whole vniuerſall world in a moment, without touching of the ſame, which flieth through the ayre, ſoundeth the depths of the ſea, and ſurmounteth at the ſame inſtant, the pauements of the heauens, and which walking vpon their ſtages, meaſuring their diſtances, and communicating with the Angels, pearceth in euen vnto the throne of God, and at ſuch time as the body is aſleepe, ſuffereth it ſelf by a holy flight, or delectable and ſweete rauiſhment, to be carried euen to the beholding of God, according to whoſe image it was firſt framed. To be ſhort, it is all in all (as ſayth *Ariſtotle*) for that by the power it hath, it poſſeſſeth all, as being the place wherein (I ſay) this great princeſſe would reſt her ſelf as within her caſtle, from thence to commaund the two inferiour regiments, to hold in ſubiection the two lower forces, (I meane the Iraſcible and concupiſcible) which would euery day be ready to fall away and reuolt. And yet I dare be bold to adde further, and (in ſtead of hauing named it among the chiefe and principall) to ſay that there is not any other part of the body beſides the braine, which can truly be called noble and ſoueraigne, and that becauſe all the other parts are made for the braine, and pay tribute thereunto as to their king. Behold here the ſtrength of my argument, which in my iudgement is as cleere as the Sunne in his brighteſt ſhine. Mankinde differeth not from beaſts in any thing but reaſon: and the ſeate of reaſon is in the braine: It is requiſite the more commendably to reaſon and diſcourſe, that the imaginatiue part of the minde ſhould ſet before the vnderſtanding part of the ſame the obiects whereabout they be occupied altogether ſimple without mixture, without matter, and freed from all corporall qualities. The Imaginatiue part can not conceiue them of it ſelfe, if the outward ſences (which are his truſtie ſpyes and faithfull reportſmen) make not certificate of the ſame. Hence then riſe the neceſſitie of framing the inſtruments of the ſences, the eyes, the eares, the noſe, tongue and membranes

Moſt cleere and euident proofe of the excellencie of the braine.

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as well inward as outward. The ſences the better to take acknowledgement of their obiects, haue need of a local motion. For man, if he ſhould not ſtirre from one place, but abide immoueable like an image, ſhould not be able to conuey any ſtore of varietie vnto the imagination. It is neceſſary then for the benefit and perfecting of the ſences, to haue certaine inſtruments of motion: theſe inſtruments are two, the ſinewes and the muſcles: the ſinewes by reaſon of their continued coniunction and adherence vnto their originall, (being like vnto that of the Sunne beames with the Sun) doe conuey from the braine that mouing power, ſeated in a moſt ſubtile bodie, namely, the animall ſpirit: the muſcles after the maner of good ſubiects obey vnto their commandement, and incontinently moue the member either by ſtretching it forth or bowing it in, as the appetite or imagination ſhall wiſh and deſire. The braine then (as is manifeſt) commandeth: the ſinewes carrie the embaſſage, and the muſcles obeying thereunto, expreſſe the intent of the minde. And euen in like ſort as the skilfull horſe-rider manageth the horſe with the bridle, cauſing him to turne on the right hand or on the left, as beſt pleaſeth him: euen ſo the braine by the ſinewes boweth or ſtretcheth the muſcles. Theſe two inſtruments of voluntarie motion, ſhould not know either how to be, or vndergoe theſe their offices, if they were not fixed vnto ſome ſolide and immoueable body. Therefore it was behouefull to raiſe vp pillers, ſuch as are the bones and cartilages, from whence the muſcles doe riſe, and into which they do inſert themſelues againe: and for that the bones could not bee ioyned or faſtned together without ligaments, it muſt needes follow that they ſhould haue their membranouſe coates to couer them withall. And all theſe parts for their preſeruation, ſtoode in neede of naturall heate and nouriſhment: this heate and nouriſhment being deriued from elſewhere, muſt needes haue their paſſages prepared by certaine pipes, and thoſe are the veines and arteries: the arteries draw their ſpirits from the hart, the fountaine of the ſame: the veines receiue their blood from the common ſtorehouſe of the ſame which is the liuer. And thus returning by the ſame ſteps, by which wee came hither, wee ſhall well perceiue, that the heart and liuer were not made for any other thing, but to nouriſh the heate of all the parts: The concluſion.

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the bones and cartilages, for rests and props vnto the muscles and sinewes, the instruments of voluntary motion: the muscles and nerues for the perfecting of the sences: the sences, to set before the imaginatiue power of the minde their outward obiects: the imagination to carrie along the formes of things voide of substance, to be more deeply weighed of reason, which thereupon commendeth them to the custodie of memorie her treasuresse. Thus euery thing yeelding obedience vnto reason, and the braine being the principall seate of reason, we must needs affirme, that all the parts of the body were made for the braine, and must therfore acknowledge it as their chiefe and Soueraigne.

I will yet adde one other plaine and euident argument (which in my iudgement is not common) to testifie the excellencie of this part: which is, that it giueth shape and perfection vnto all the rest. For it is most certaine, that of the shape and quantitie of the braine, dependeth the grosnes, greatnes, smalnes: and in a word, euery maner of proportion hapning to the head; forasmuch as euery containing thing doth conforme it selfe continually vnto the contained, as the thing for which it was created and made. Ioyntly after the head, followeth the backe bone, which is framed of foure and twentie vertebres, besides the bone called *Sacrum*, and maketh that which men call the truncke of the body. If that hole in the head through which the marrow of the backe falleth be great, then must also the vertebres bee large. Vpon this backe bone doe all the rest of the bones stay and rest themselues, as the vpper timbers doe vpon the keele of a ship. As by name vpon high the shoulder bones, (whereunto are fastned the armes aswell on the one side, as on the other) and the twelue ribs: and below the bones of the small guts and hips, into whose hollow cauities the heads of the bones of the thighes are inserted: so that if all their proportions be duly obserued, it will appeare that the greatnes and grosnes thereof is answerable to that of the head, and by consequence to that of the braine, as the chiefe and principall. Vnto the bones are fastned the muscles, the ligaments, and the most of the other parts of the body doe rest themselues thereupon, and within their circuite and compasse are shut and made sure the most noble parts and the bowels. In few words: the bones impart vnto the

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whole bodie the shape which themselues haue receiued from the braine. This is the same which diuine *Hippocrates* hath very well obserued in the second booke of his Epidemiques, saying, that of the greatnes and grosnes of the head, a Phisition might iudge of the greatnes of all the other bones and parts also, as veines, arteries, and sinewes. Let vs therefore conclude with the trueth, that the braine hauing such aduantage against the other parts, ought to be esteemed the chiefe and principall seate of the soule.

Chap. II.

How the outward sences, the proper messengers of the soule, are only fiue, and all placed without the braine.

SEeing it is most euident that the soule is shut vp within the bodie, as it were in a darke dungeon, and that it cannot discourse, neither yet comprehend any thing without the helpe of the sences, which are as the obedient seruants and faithfull messengers of the same: it was needfull to place the instruments of the sences very neere vnto the seate of reason, and round about her royal pallace. Now the sences which we call externall are onely fiue; the sight, the hearing, the smelling, the taste and handling, of which altogether dependeth our knowledge, and nothing (as saith the Philosopher) can enter into the vnderstanding part of our minde, except it passe through one of these fiue doores. Some men striuing to shew reason for this number, say that there are but fiue sences, because that whatsoeuer is in the whole world, is compounded and made of onely fiue simple bodies, as the foure elements and the firmament, which they call the fift simple nature, being much of the nature of the ayre, free from all impurities, and abounding with shining lights. The sight (say the Platonists) which hath for his instrument these two twinne-borne starres, all full of bright straines and heauenly fire, which giueth light and burneth not, representeth the skie, and hath the light for his obiect. The hearing, which is occupied about nothing but founds, hath for his obiect the beaten ayre, and his principall instrument (if we

Why there are but fiue sences.

The first reason.

beleeue *Aristotle*) is a certaine ayre shut vp within a little labyrinth. The smelling participateth the nature of fire: for smels haue their being only in a drie qualitie caused through heate, and we receiue it for a principle, that all sweete smelling things are hot. The taste hath moysture for his obiect. And handling the earth for his.

The second. Othersome say that there be but fiue sences, because that there are but fiue proper sorts of obiects, and that all the accidents which are to be found in any natural body, may be referred, either to colours, or sounds, or smels, or tasts, or to those qualities wherabout touching is occupied, whether they be those which are principall, or those that spring of them.

The third. Some there be which gather the number of the sences to bee such, from the consideration of their vses, which are their finall ends. The sences are made for the benefit of man: man is compounded of two parts, the body and the soule: the sight and hearing serue more for the vse of the soule then of the body: the taste and touching more for the body then the soule: the smelling for both the twaine indifferently, refreshing and purging the spirits, which are the principall instruments of the soule. But of the fiue sences I say that there are two altogether necessary and required, to cause the being and life simply: and that the three other serue onely for a happie being and life. Those without which one can not be, are taste and touching. Touching (if we will giue credit to naturall Philosophers) is as the foundation of liuelihood (I will vse this word, because it expresseth the thing very excellently). The taste serueth for the preseruation of the life. The sight, hearing and smelling serue but for to liue well and pleasantly. For the creature may be and continue without them. The two first (for that they were altogether necessarie) haue their meane inward, and so ioyned to the member, as that it is (as a man would say) inseparable. For in tasting and touching, the Phisitions doe make the meane and the member all one. The other three haue their meane outward, and separated from the instrument, as the sight hath the ayre, the water, and euery such body as is through cleere, for his meane. *Aristotle* in the beginning of his third booke of the soule, hath plaid the Philosopher in more serious sort then

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any of all these, but yet so darkly, as that almost all his interpreters haue found themselues much busied to find out his meaning, in such maner, as that he may seeme to haue gone about to hide the secrets of nature and mysteries of his Philosophie, not with the vaile of fained fables, as doe the Poets; neither yet with any superstitious conceit of numbers, as *Pithagoras* his sect were wont to doe; but by an obscure breuitie: resembling the cuttle fish, which to the end that she may not fall into the hand of the fisher, casteth vp a blackish water and so hideth her selfe. The fences (sayth *Aristotle*) are but fiue, because the meanes by which they worke, cannot be altered any moe then fiue wayes. The meanes by which we haue the vse of our fences, are onely two, the one is outward, the other is inward: the outward is the ayre or the water: the inward is the flesh or the membranes. The ayre and water do receiue the obiects that are outward, either as they are transparent, and then they serue the sight; or as they are moueable and thin bodies, and then they serue the hearing; or as moist ones doe receiue and embrace that which is drie, and then they be the subiects of smelling. The flesh or membranes may be considered of two maner of wayes; either according to the temperature of the foure elementall qualities, and then they bee the subiects of feeling; or els according to the mixture of the qualities drie and moyst, and then they are the subiects of relishes for the taste. But howsoeuer the case standeth for the reason of this number, we see there are but fiue externall fences, which are all placed without the braine. These are the proper posts and messengers of the soule; these are the windowes by which wee see cleerely round about vs. These are the watch or doore keepers which make vs way into their most priuie closet: if they performe their faithfull seruice vnto reason, then do they set before her a million of delightsome obiects, whereof she frameth marueilous discourses. But (alas and woe is me) how oft doe they betray her? Oh how many dangers do they inwrap her in, and how subiect are they vnto corruption?

The fourth.

Aristotle his proofe for the number of the fences.

It is not without cause that this thrice renowmed *Mercurie* doth call the fences tyrants, and the cutthrotes of reason: for oftentimes doe they make captiue the same vnto the two inferiour

The fences become the cutthrotes of reason.

powers; they make her of a mistresse a seruant; and of a free woman, a drudge and thrall to all slauerie. She may well commaund, but she shall be obeyed all one, as lawes and Magistrates are in an estate troubled with ciuill dissentions. Yea tell me, how many soules haue lost their libertie through the sight of the eyes? Doe not men say that that little wanton, that blind archer doth enter into our hearts by this doore, and that loue is shaped by the glittering glimces which issue out of the eyes, or rather by certaine subtile and thin spirits, which passe from the heart to the eye through a straite and narrow way very secretly, and hauing deceiued this porter, doe place loue within, which by little and little doth make it selfe Lord of the house, and casteth reason out of the doores? How oft is reason bewitched by the eare? If thou giue thine eare to hearken vnto these craftie tongues and cogging speeches, vnto these cunning discourses full of honie, and a thousand other baits, doubt not, but that thy reason wil be surprised: for the scout watch being fallen asleepe, the enemie stealeth vpon them softly, and becommeth master of the fort. The wise *Vlisses*, did not he stop the eares of his companions, fearing least they should bee bewitched and besotted with the melodious tunes and sweete songs of the Syrens? The licorishnes of the taste, surfetting and drunkennes, haue they not spoyled many great personages? And the sence of feeling, (which nature hath giuen to liuing creatures, for the preseruation of their kinde) being the grossest and most earthly of all the rest, and so by consequent, the most delicate of al the rest, doth it not oftentimes cause vs to become beasts? Reason then is neuer ouertaken, but through the false and treacherous dealing of these doore keepers: no man can at any time come within her pallace, but by the priuitie of these watchmen, for that (as I haue sayd in the beginning of this chapter) the soule being fast shut vp within the bodie, cannot doe any thing but by the aide and assistance of the sences.

How that the sences steale away and rob reason of her libertie.

Chap. III.

That the sight is the noblest of all the rest of the sences.

AMongst all the sences, that of the sight, in the common iudgement of all the Philosophers, hath been accounted the most noble,

noble, perfect and admirable. The excellencie thereof is to be perceiued in an infinite sort of things: but most principally in foure: as first, in respect of the varietie of the obiects which it representeth vnto the soule: secondly, in respect of the meanes of his operation, which is (as it were) altogether spirituall: thirdly, in respect of his particular obiect, which is the light, which is the most noble and perfect qualitie that euer God created: and lastly, in respect of the certaintie of his action. First therefore it is out of all doubt, that the sight causeth vs to know greater varietie and more differences of things, then any of the rest of the sences. For all naturall bodies are visible and may bee seene, but all of them cannot bee felt, neither doe they all affoord smels, tasts or sounds: the heauen, the worlds ornament, and most noble substance amongst all the rest, will not suffer vs to touch the same; neither can we heare the sweete harmonie which proceedeth of the concords and agreements of so many diuerse motions. There is nothing but the sight which acquainteth vs therewithall: soft bodies make no sound; neither is there any taste in the earth or fire, and yet euery one of these may bee seene. The sight, besides his owne proper obiect, which is colour, hath an infinit sort of others, as greatnes, number, proportion, motion, rest, situation and distances. And this is the cause why the Philosopher in his Metaphysiques calleth it the sence of inuention, as for that by the meanes thereof, all the goodliest Sciences and Arts haue been inuented and found out. By the meanes of this noble sence, it came first to passe that man should begin to play the Philosopher: for Philosophie was not begot, but by admiring of things; and admiratiõ sprung not from elswhere, then from the sight of pleasant and beautifull things. Whereupon the minde raising it selfe on hie toward heauen, and rauished with the consideration of so many marueilous things, was desirous to know the cause of them, and thereupon began to play the Philosopher. And yet I will say further, that the sight is the sence of our blessednes. For the chiefe felicitie of man consisteth in the knowledge of God. But there is none of the other sences that giueth vs better directions for the same, then the sight. The inuisible things of God (saith the Apostle) are manifested and made knowne vnto vs by the visible. This first and principall cause, which is infi-

Foure things prouing the excellencie of the sight.

The first.

nite and incomprehensible, cannot be knowne but by his effects. *Moses* neuer knew how to see God, otherwise then vpon the backe and hinder parts; for from his countenance proceeded such a shining brightnes, as that it did altogether dasle his sight.

A thing worthie to be considered of Atheists.

Come hither then thou Atheist whosoeuer thou art; set on worke this noble sence thoroughly to view, this excellent and perfect workemanship of God, this huge masse which containeth all things. Lift vp thy sight vp on high from whence thou hast taken thy beginning. Behold the throne of his Maiestie, which is heauen, the most complet and fully furnished of all his corporall and sensible workes: looke vpon the infinite number of burning fires in the same, and among the rest, those two great flames which shew vs light, the one by day, and the other by night. Marke the gloriousnes of the Sunne when it ariseth, how it stretcheth forth his beames in a moment, from the one end of the world vnto the other, and how at night it sinketh his chariot in the Ocean Sea. Consider the variable disposition of the Moone in changing her face and shape, the diuerse motions of the Planets, which moue continuallie with an incredible swiftnes and equalnes, and that in such sort as that they neuer strike one vpon another. If thou be asbamed to looke vp to Heauen, for feare of being constrained to confesse a Deitie, then cast downe thine eyes vpon the waters or earth: see and marke in the Sea a great wonder, how continually it threatneth the earth, and yet neuer ouerfloweth it: how it swalloweth vp all the riuers of the world, and swelleth neuer a whit the more, neither hath it been seene thereby to passe his limits. Weigh with thy selfe how the earth hangeth in the ayre, and so beareth vp it selfe, notwithstanding the huge massines of the same. Call to minde the differences of liuing creatures, which are all most perfect in their kindes; the beautie of stones; the infinite number of plants, the which are not lesse variable, then admirable for their properties. If all this cannot stir thee vp to the acknowledgement of this first and principall cause; if thy delight draw thee away, and steale from thee that time which thou oughtest to spend in the due consideration of such a manifold varietie, then come hither, I will shew thee in lesse then nothing, the summe and briefe of the great world; the head and chiefe of all that euer God wrought;

the

the pourtraiture of the vniuerſall world: that then being rauiſhed with ſo merueilous and cunning a peece of worke, thou mayſt be conſtrained to crie out with the great Magician *Zoroaſter*, O man, thou wonder and vttermoſt endeuour of nature. I will not at this time ſet before thine eyes any more then the head, in as much as the cleere ſignes and markes of the diuine nature doe ſhine therein moſt euidently. View well this royall palace within, without, and throughout; behold the cunning workemanſhip of the braine, the three pillars which beare vp the roofe of this magnificent building, as an *Atlas* ſupporting the Heauens with his ſhoulders: beholde alſo his foure cloſets or cels, wherein the principall powers of the minde (if we will beleeue the *Arabians*) are lodged, as for example, the imagination in the two formoſt, the reaſon in the middlemoſt, and the memorie in that which is hindermoſt: obſerue moreouer his chriſtallike cleere looking glaſſe, his admirable net, which like to an intricate labyrinth is wouen of a million of ſmall arteries, interlaced and wrought one within another, in which the ſpirits are prepared and refined; the originall of ſinews, the ſiluer thred, and his incredible fecunditie in the bringing forth of ſinewes; the chanels and water pipes, through which the excrements of the braine are purged. But and if thou will not be kept vp within this royall pallace, come forth and thou ſhalt ſee in the forepart of the head theſe two bright ſhining Starres, the two looking glaſſes of the Soule, as thoſe that ſhadow out vnto vs all the paſſions of the ſame: thou wilt admire their beautifull chriſtalline humor, which is more cleere and pure, then any orientall pearles; the polliſhed and exquiſite garniſh of the coats, the marueilous nimblenes of the muſcles, but eſpecially of the amorous pulley. On the ſides thou ſhalt ſee the eares, which will no leſſe aſtoniſh thee: for is it not a wittie exploite of nature to cloſe vp in ſo ſmall a hole, a drumme hard laced, hauing on the hinder part two ſmall ſtrings, and three little bones, reſembling a forge, a hammer and a ſtirrop, three ſmall muſcles, and a labyrinth contayning the inward ayre; two windowes, round, after the faſhion of an egge, one nerue, and one griſtlie veſſell, which ſtretching it ſelfe to the roofe of the mouth, cauſeth that goodly ſympathie or mutuall ſuffering, which is betwixt the inſtruments of hearing and ſpeaking? And

what

what wilt thou say to that little peece of flesh which moueth it selfe a hundred thousand waies, like vnto an Eele, I meane the tongue, which is the reuealer of all our conceits, the principall messenger of the minde, which singeth (as saith the Apostle) praise vnto his Creatour, and oftentimes curseth men, which rauisheth, bendeth, thundreth, encourageth the generous minde to fight, which hath power to destroy and ouerturne most florishing Empyres, and to set them againe in their former state. To be short, O thou Atheist consider at once, and all together (if thou be not disposed to take the paines with euery part by it selfe) the beautie and maiestie shining in such sort in the face, as that it causeth all other liuing things to tremble thereat: shalt thou not finde therein some sparkles, or rather I know not what bright beames of the Deitie? Shalt thou not therein also finde the markes and engrauen forme of the Creator? And hauing viewed the whole proportion of the same, shalt thou not, whether thou wilt or no, be constrayned to crie with the kingly Prophet: Thy hands O Lord haue fashioned me, I will magnifie thee as long as I liue. How surpassing excellent then is the sight, seeing that in acquainting vs with so many wonderfull things, and such diuersitie of obiects, it leadeth vs as it were by the hand vnto the knowledge of God?

The second proofe of the excellencie of the sight.

The second poynt, declaring vnto vs the excellencie of the sight, is the meanes of his operation, which is altogether liuely: for the sight performeth his office at an instant, and that in places farre remoued and distant, without mouing it selfe from place to place. I intend (to the end that euery one may know the perfection of this sence) to compare the same, and make it like vnto the vnderstanding. Euen as the vnderstanding part of the minde receiueth from the imaginatiue the formes of things naked and voide of substance: euen so the sight is the subiect of formes without bodie, which the Philosophers call intentionals. The vnderstanding comprehendeth the vniuersall world, no place or roome in the vnderstanding taken vp, or any whit more pestered thereby, it containeth Heauen and earth, without any maner of incumbrance from the one to the other so contained therein: the sight comprehendeth also the Heauen, without admitting of any place thereto; the hugest mountaines in the world doe enter all at once, and

A comparing of the sight and vnderstanding together.

that

that vndiminished through the apple of the eye, without any maner of offence through straitnes of entrance. The vnderstanding iudgeth at one and the very same time of two contraries, as of right and wrong, placeth them indifferently in it selfe, attaineth to the knowledge of the one by the other, and bandeth them vnder one and the same science. The eye at one instant receiueth and is occupied about blacke and white, and distinguisheth them perfectly, the knowledge of the one being no maner of impeachment to the knowledge of the other, being ỹ which the other sences are not capable of. For if a mā haue tasted any bitter thing, his knowledge to iudge aright at ỹ very same instant of that which is sweet will faile, & deceiue him. The vnderstanding in a moment whirleth round about the world: the sight likewise receiueth at one instance of time the whole widenes of heauen. All the other sences doe moue by intercourse of time. And this is the reason why men see the lightning, before they heare the thunder, although that neither of them bee made before or after other. The vnderstanding is free of it own nature, and hath a will either to discourse or not to discourse: The sight in his function hath as it were a certaine kinde of libertie, which nature hath denied vnto the other sences. The eares are alwaies open, so as the nose is also, the skinne is alwaies subiect vnto cold and heate, and other the iniuries of the ayre: but the eyes haue eyelids which open and shut when wee will, for the furtherance or staying of our sight, as best shall please our selues.

The third thing which I haue to testifie the excellencie of the sight, is the certaintie of the function. For it is out of all doubt that this is the most infallible sence, and that which least deceiueth: according to that which mē are wont to say, when they wil assuredly auouch any thing, namely, that they see it with their owne eyes. And the prouerbe vsed amongst men of olde time, is most true, that it is better to haue a witnes which hath seene the thing, then ten which speake but by heare say. *Thales* the Milesian Philosopher said, that there was as much difference betwixt sight and hearing, as betwixt true and false. The Prophets themselues to confirme the trueth of their propheſies, called them by the name of visions, as being most true and certaine things. Finally, the ex-

The third proofe of the excellencie of the sight.

cellencie of the sight appeareth in his particular obiect, which is the most noble, common and best knowne of all others: I call it the most noble, because it is endowed with the goodliest qualitie that is in the whole world (that is to say) the light, which is of an heauenly offspring, and which the Poets call the eldest daughter of God. I call it the commoneſt, becauſe indifferently it communicateth it ſelfe vnto all. And I call it the beſt knowne of vs, in as much as all other naturall bodies do more or leſſe conſiſt of mixt colour: and for that there cannot be any part therof in the world, but that it will be attained and gotten by ſight. Let vs then ſay with *Theophraſtus*, that the ſight is as it were the forme and perfection of man: with the Stoikes, that the ſight maketh vs to draw neere vnto the diuine nature: and with the Philoſopher *Anaxagoras*, that it ſeemeth that we were borne onely to ſee.

Chap. IIII.

Of the excellencie of the eye, the proper inſtrument of ſight.

IF the ſence of ſight be wonderfull, the member or inſtrument ſeruing for the ſame can not but goe beyond all wonder: for it is framed ſo cunningly, and of ſuch beautifull parts, as that there cannot be the man, which is not rauiſhed with the conſideration of the ſame: and for my ſelfe, I know not whether with *Plotine* and *Sineſius* I ſhould call nature ſome magicall inchauntreſſe or iuglar, for hauing incloſed in ſo ſmall a ſtarre ſo manifold gracious influences, and made a worke ſo farre ſurpaſſing all other her common and ordinary ones. The Egyptians haue worſhipped the Sunne, and called it the viſible Sonne of the inuiſible God: and wherefore ſhall not we admire the eye, which (as the ancient Poet *Orpheus* affirmeth) is the Sun of this little world, more notable without compariſon, then that of the great world? The great Sunne by the ſtretching forth of his beames doth enlighten the whole world, but it reapeth neither profit nor plea-

A comparing of the Sun and the eye together.

ſure

sure by this his ministerie, neither doth it selfe see any thing of all that, which it causeth vs to see: The eye, that pettie Sunne, in representing vnto vs whatsoeuer coloured bodies that there are, doth therewithall see and acknowledge them all it selfe, yea it pleasantly delighteth it selfe therein together with the minde, and also perceiueth the fashion, greatnes, and distances of the things about which it is occupied, which no other of the instruments of sence can doe. *Plato* for the honour he bare vnto this diuine part, called it celestiall and heauenly, he beleeueth that the eye is all full of such straines and fire as the starres haue, which shineth and burneth not. *Orpheus* called the eyes, the looking glasses of nature: *Hesichius*, the doores for the Sunne to enter in by: *Alexander* the Peripatecian, the windowes of the mind, because that by the eyes we doe cleerely see what is in the same, we pearce into the deepe thoughts thereof, and enter into the priuities of his secret chamber. And as the face doth shadow out vnto vs the liuely and true image of the minde, so the eyes doe lay open vnto vs all the perturbations of the same: the eyes doe admire, loue, and are full of lust. In the eyes, thou maist spie out loue and hatred, sorrow and mirth, resolution and timorousnes, compassion and mercilesnes, hope and despayre, health and sicknes, life and death. Marke I pray thee, how in the feates of loue the eyes can craftely flatter thee, how they become courteous, kinde, full of fauour, craftie, alluring, rowling, and strangely enchaunting thee: in hatred how they looke fierce and sterne; in bold attempts, loftie and continually glistering; in feare cast downe, and as it were set fast in the head; in ioy, pleasant and cleere; in pensuenes, all heauie, mournfull and darke. To be short, they be wholly giuen to follow the motions of the minde, they doe change themselues in a moment, they doe alter and conforme themselues vnto it in such maner, as that *Blemor* the Arabian, and *Syreneus* the Phisition of Cypres, thought it no absurditie to affirme that the soule dwelt in the eyes: and the common people thereabout, think so vntil this day, for in kissing the eyes they thinke they kisse the soule.

The eyes are the looking glasses of the minde.

All the passions of the minde are to be espied and seene in the eye.

See here thy selfe condemned, O shameles findfault, and vtterly ouerthrowne in thine action, and delay not but come and make condigne satisfaction, by honorably recompencing of na-

Momus condemned.

ture, whom thou hast so maliciously and falsely accused of follie, in the framing of mans bodie, for that she did not set two windowes, next neighbours to the heart, through them to spie all the passions of the same. Canst thou wish more goodly windowes then these of the eyes? Doest thou not see therein as in a glasse, the most hidden things of the mind? The poore man, at the barre doth he not reade written in the eyes of his iudge his sentence either of condemnation or absolution? There is (saith *Theocritus*) a broad trodden way betwixt the eye and the heart: a man can not so dissemble the matter, but that such will be the passion of the eye, as is the passion of the heart. It grieueth me that euer I should finde so vaine a discourse, as should containe the eger desire of any man to haue the breast framed of christalline cleerenes, to the end he might see what is within the heart, seeing we are alreadie possessed of this round christalline humour within our eyes, which casteth forth most liuely light, much like the glittering beames comming from a shining glasse moued in the Sun. But if it may be granted me to mixe one dram of Phisick amongst the large masse of these Philosophicall and Poeticall sentences, I dare auouch that in the eyes wee perceiue and discerne, the whole estate of the health of the bodie. *Hippocrates* that sacred Oracle of Greece (which all the world as yet euen to this day hath in singular reuerence and rare admiration) hath obserued the same very well in his Epidemickes, and in his treatise of Prognostications he commandeth the Phisition, when he goeth to see the sicke partie, to behold and looke well vpon the face, but chiefly vpon the eyes, because that in thē as in a glasse, is easily espied the strength or weaknes of the animal powers: if the eye be cleere and bright, it maketh vs well to hope: but and if it bee darke, withered, and clowdie, it presageth death. *Galen* calleth the eye a diuine mēber, & that part of euery liuing thing which most resembleth the Sun; and therewithall doth so highlye steeme of it, as that he verely beleeueth that the braine was made onely for the eyes. The Lawyers doe hold it as a Maxime, that a blind man cannot plead or handle a case well, because he cannot see the maiestie of the Iudge. *Aristotle* that light of nature, in his second booke of the generation of liuing things, sayth, that from the eyes men take infallible signes of

That the eyes doe shew the whole estate of mans health.

of fruitfulnes, as, if in dropping some bitter water into a womans eye, she by and by feele the taste thereof vpon her tongue, it is a signe of her aptnes to conceiue. The eyes (sayth the same Philosopher) are full of spirit and Fede: and this is the reason, why in new married persons, they bee so much the lesser and as it were languishing. But what neede I to alleadge so many proofes concerning the excellencie of these two Sunnes, seeing that nature her selfe doth sufficiently demonstrate the same vnto vs? Let vs reade in the booke of nature, and see how carefull she hath been to preserue the eyes, as her most deare and trustie messengers: let vs admire the arte and skill she hath vsed in working their safetie and defence, wee shall finde her not to haue forgotten or left out any thing, but so to haue bestirred her selfe, as those men which haue a purpose to fortifie a place, and make it impregnable. First she hath lodged them, as in a bottome or little valley, that so they might not be subiect to the assaults of manifold dangers and hurts: and to the end that nothing might commaund this little valley, she hath raised vp foure notable bulwarkes all fortified with bones, as hard as any stone, which in such sort doe swell and bunch out, as though they were little hillockes made to receiue the blowes, and beare off the violence of euery enemy that might assaile them. Aboue them is the brow bone, vnderneath them the cheek bone: on the right and left hand the two corners, the one of them somewhat greater then the other, and is that which is next the nose; the lesser one being that which is set right ouer against it. And for as much as the forepart of this place lay wide open without any couer, (for feare that the prince commanding the same (which is the eye) should be ouertaken or offended with too much winde, cold or smoke) nature hath made as it were a draw-bridge, to be pulled vp and let downe as the gouernour shall commaund, and this is the eye lid, which openeth and shutteth as best pleaseth vs. The chaines by which this bridge is drawne & let fall, are the muscles, the instruments of voluntary motion. It appeareth then plainly enough, by this great care which nature hath for the preseruation and defence of the eyes, how excellent they are, and therewithall we haue our lesson taught vs, how carefull we ought to bee for the preseruation thereof.

Natures care for the preseruation of the eyes.

The fortifications seruing for the safetie of the eye.

Chap. V.

Of the composition of the eye: in generall.

SEeing it is now time to lay open the skilfull workmanship of these bright starres appearing and rising together, I purpose to describe them in such liuely sort and perfect maner, as that the most curious, and such as are borne onely to carpe (it may be) will content and hold themselues satisfied therwithall, letting passe all those notable obiections and questions, which might bee made about the parts of the eye, for that I haue at large handled them in the fourth booke of my Anatomicall workes. And euen as Cosmographers and those which trauailing applie themselues curiously to obserue and marke things, do first inquire of the names of the prouinces, view and consider the situation, beauty, largenes, strength and entrances of cities, together with whatsoeuer els may be seene without, before they enter into them: so will I describe the forme, situation, fortresses, largenes, vse, and number of the eyes, with whatsoeuer els may bee marked in generall, before I enter into any particular search of the particular and pettie parts of the same.

The names of the eye.

The Grecians call the eyes ὀφθαλμοὶ, because they make vs see, and the Poets affirme that they are the children of the Nymph *Thea*. The Hebrewes haue called them by the name of *High*, to put vs in minde from whence we sprung, as also to teach vs, that our eyes must serue vs to behold the things which are high. The Latines call them *Oculi*, because they are as it were hidden and inclosed within a hollow valley.

The forme of the eye.

The shape and figure of the eye is round, but not euery way: for it is somewhat long and steeple fashioned, hauing his foundation outward, and his top inward towards the sinew of sight. This

The cause of the roundnes of the eye.

figure was most agreeable vnto it, to the end it might containe much, moue nimbly, and free it selfe of offered iniuries. The Mathematicians doe maintaine, that the spherical figure is of all o-

ther

ther most apt to containe much: and *Ophthalmists* do confidently affirme, that if the eye had not been round, it could neuer haue comprehended the hugenes of great bodies, neither yet could euer haue seene at one time many obiects, because that no man can see but by a direct line. On what side soeuer then that the eye turneth it selfe, many lines doe offer themselues at once to the apple of the eye which is round: but this could not by any meanes come to passe if it were flat or foure square. This circular shape doth also serue the eye, that it may moue the more nimbly and easily, whether it bee vpward or downward, to the right hand, or to the left, or circularly: for spherical bodies doe moue as it were of themselues, being stayed and resting onely vpon a narrow poynt. And I conceiue this roundnes not to bee vnprofitable for the defence of the eye: for amongst all the sorts of figures the spherical or round figure is the strongest, and withstandeth the assaults of outward hurts and harmes, because it is all alike, and hath no vneuenes in it: therein a man shall neither finde corner nor poynt, which may worke the ruine and dissolution of the same. The eyes are seated vpon high in the body, in the forepart thereof, and as it were in a valley. Vpon high, to discouer from a farre, and to keepe that nothing may assaile vs at vnwares: they serue the creature for spies and watches, and are oftentimes called *Phares* in the holie Scripture. But watchmen are vsually wont to bee placed in such plots as doe ouerlooke all the rest: and no man assigneth any other place to the lanterne, but the top of the tower and highest place of the ship. They are set in the forepart of euery creature rather then behinde, because that euery liuing thing moueth forward: by which meanes it hath the oportunitie to spie out whatsoeuer might offend it: and indeede it is not at any time permitted the watch, to stand with their backs or blind sides toward the enemie. Such as write of Anatomie, say, that it was necessary to place the eyes forward: for that the sight had great need of a verie soft and marrowish sinew, that by it vpon the sudden there might great store of spirits bee brought vnto the eyes: and that such sinewes cannot possibly bee found to put forth backward, seeing that way there is none that spread themselues, but such as are too hard and drie. I my selfe haue elsewhere approued this reason,

The situation of the eye.

The cause why they be situated on high.

And the cause why before.

but

but hauing afterward obserued, that all the nerues doe rise from the hinder part of the braine, and hauing seene the optickes to rise also from thence as well as the rest, I was enforced to chaunge mine opinion. Finally, the eyes are fastned within a little hollow pit (which the common people call a collet) for their better safetie, and to preuent the prodigall expence of spirits. This little valley is fortified and entrenched on euery side, either with the brow bone, or with the bone of the nose, or the cheeke-bone, all which are raised round about the same in maner of little hillockes: and and for that the forepart was without any thing to couer it, nature hath shut it in with a lid, which openeth and shutteth at our pleasure, for feare that the eye should bee corrupted and turned from his nature, either by the offence of too much light; or least that it being alwaies open, his spirits should spend and quite vanish away; or least in sleeping, it might bee hurt by outward causes. To which causes I will yet adde one other of mine owne, which is, that if the eye should neuer shut, and thereby the spirits vncessantly be gazing vpon the light, it would come to passe that they would bee vnable to withdraw themselues so speedily into their center, and our sleepe would neuer be so peaceable: for the Philosophers are of opinion, that sleepe is caused by the retraction of the spirits into their secret and inner roomes.

The cause why they be set in a hollow place.

The substance of the eye.

The nature of the eye, which men call in anatomicall tearmes the substance of the eye, is altogether soft, bright and shining cleere, thicke and watersh: soft, that so it may readily admit and receiue the formes of things: shining and through cleere, that so the light may pearce it through, as also that thereby the instrument may haue some correspondencie with his obiect: thicke, to the end that his obiects may haue, wherin the better to rest themselues. Now it is the water alone, that can haue all these properties: whereupon it commeth to passe that the eye is of a watersh substance, and not of a fierie substance, as *Plato* sayd: which thing I shall handle more largely in the 10. chapter.

The vse.

The vse of the eye is double: the one is to serue as a guide and watch to discouer whatsoeuer might annoy, and this is common to all liuing creatures: the other is proper to man alone, being, to teach him the knowledge of God by the things that are visible,

to

to perfect his vnderstanding, and thirdly to consummate his happines: for by the sight man is made partaker of the beautie of the heauen, by which meanes his vnderstanding part is much beautified and inriched, and he himselfe made as it were like vnto his Creator.

The number. The eyes are two, and that because of the excellencie and necessitie of this sence, that thereby the one might serue, if that the other were either diseased or vtterly lost. They be also two in respect of the better perfecting of the sight, for by that meanes a man may see many things at once: for if that man had but one eye, and that placed in the middest of the forehead, as the Poets faine of the Cyclops, wee should onely see the things right afore vs, and not those which should be on either side. These two eyes, although they bee farre enough separated the one from the other, haue such a fellow-feeling, and doe so well agree the one with the other in their actions, as that the one of them cannot moue without, or otherwise then the other: for it is not in our abilitie, to looke vp with the one and downe with the other, or els to stir the one and hold the other still. *Aristotle* imputeth this to the coniunction of the sinewes of sight, and is perswaded that the eyes doe moue together, because they haue the originall and principal cause of their motion, which is found to be in the coniunction of the sinew of sight: common. But this worthie man deceiueth himself in this, as he is ouertaken almost in al other things, wherein he hath to doe concerning Anatomie. The nerue optick medleth not at all with the motion of the eye, it onely bringeth the spirit of sight: for being stopped in the disease called *Gutta Serena*, the sight is quite lost, and yet the motion thereof abideth still. It behoueth vs therefore to attribute the cause thereof, to the end and perfection of this sence. The eyes must moue together, that so the obiects thereof may not seeme double. For if wee could looke vp with the one and downe with the other, at one and the same time, this sence which is the worthiest of all the rest, should euermore delude it selfe and become most imperfect, in as much as euery single thing that it should behold, would appeare double: the proofe whereof may easily be had, if with thy finger thou force the one of thine eyes either higher or lower then the other.

That they can not moue the one without the other.

Aristotle his error.

Their temperature. Their feeling.

The temperature of the eye is cold and moist. It feeleth most exquisitely, and hath a merueilous fellow-suffering with the braine.

The colours of the eyes.

Man alone hath his eyes of sundry colours: and this varietie commeth either of the humors, or of the grape-coloured coate, or of the spirits. The variation by humors, is because they alter three waies, as either in their situation and placing in the eye, which is sometime more deepe and inward, and sometimes more superficiall and outward; or else in their substance, as that which may be grosse or subtile, cleere or dim: or lastly in their quantitie. If the christalline humor be very bright, cleere and subtile, if also it be large, and placed forward in the eye, the eye will seeme fierie and sparkeling; if contrariwise it be duskish, grosse, and set very much inwardly, the eye will shew blacke or browne: the grape-like tunicle, being oftentimes of diuerse colours, is also a cause of this varietie, and the spirits doe not a little further and serue to procure the same.

Chap. VI.

A very particular description of all the parts of the Eye, and chiefely of the fixe muscles of the same.

IS it not one of the wonders of the world, that this little member (which seemeth as though it were nothing) shall be made of more then twentie seuer all parts, all differing one from another, and yet so decently ioyned, and incorporated one with another, as that all the wit of man is not able to blame the same, either of want or surplussage? I purpose to describe one after another, and that in such order, as is to be obserued, if one should goe about to dissect or anatomise the same. The eye then is framed of fixe fleshie strings, which men call muscles, and these cause it to moue vpward, downeward, to the right side, to the left, and circularlie, of fixe coates or tunicles, which inwrap all the parts together, nourishing and containing the humors euery one of them, within their owne precincts and bounds; of three humors, all cleere and thorough-shining, which doe

A briefe rehearsall of the parts of the eye.

doe receiue, alter and keepe all the obiects of sight; of two sinewes which conuey the animall spirit, the one seruing the sight, and is therefore called the nerue opticke, the other seruing for the motion of the eye, of many small veynes which serue for victualers; and of as many arteries to prolong the life thereof; of much fat, by his slipperines to make it nimble, and of two little glandules or kernels, which keepe it moist and fresh, least by his continuall motion it might be ouer heat, and so ouer drie.

The description of the muscles.

The muscles were of necessitie prouided and giuen to the eye, that so it might moue on euery side: for if the eye stoode fast, and immoueable, we should be constrained to turne our head and necke (being all of one peece) for to see: but by these muscles it now moueth it selfe with such swiftnes and nimblenes, without stirring of the head, as is almost incredible, and this is the cause why they are tearmed of the Poet rolling. The muscles of the eye are onely sixe, foure direct or streight, and two oblique or crooked ones; the direct serue for direct motion, as the first of them draweth the eye vp, the second downe, the third towards the nose, and the fourth from the nose. The olde writers being grosse conceited in matters of Anatomie, haue thought that these foure muscles sprung from within, from the membrane called *Dura mater*, but they were foule deceiued, for so they ought not, and much lesse could they. They ought not, because the said membrane is a very sensible part, and couereth the sinewes of sight, in such maner, as that the muscles performing their offices, and mouing backeward toward their roote and originall, should presse the sinew, hinder the passage that should be at libertie, for the spirit to passe through, and for the exquisite sensiblenes that is in *Duramater*, their motion should be alwaies ioyned with much paine. They cannot rise from thence, because their foundation and stay would not be firme and fast enough, their piller would haue been to weake, for it is a poynt of necessitie, that the drawing part should euer be stronger then that which is drawn. We must therefore beleeue and hold, that these foure muscles doe take their begininng from within the collet, from some part of the bone, called *Sphenoides*, and holding diuerse courses, doe fasten themselues vnto

The foure streight muscles.

The error of the olde writers.

the two ob- muscles.

the white coate: the two other muscles called oblique, doe stirre the eye in his oblique, and as it were circular motion, the one aboue, and the other below, alwaies outwardly, and neuer inwardly, because the eye hath nothing within to beholde or looke vpon.

The amorous pulley.

The first of the obliques springeth from the place of the foure direct ones, and as it commeth neere vnto the great corner, it maketh a round and white string, which passing through a little pipe or cartilagenous ring in forme of a pulley, maketh a semicircular motion, and inserteth it selfe in oblique maner into the membrane coniunctiue, or white coate before spoken of. This skilfull peece of worke hath laine secret vntill this age, wherein an ingenious Anatomist, named *Fallopius*, hath detected the same. The other springeth from the great corner, and fastneth it selfe in the little, drawing the eye in oblique maner towards the eare. We will giue for sport sake, vnto euery muscle his proper name, and so that which draweth the eye vpward, shall be called proude and haughtie: and that which moueth it downeward, humble and lowly: that which moueth it toward the nose, reader, or drinker, because in reading or drinking, we turne our eyes toward our nose: the fourth which moueth the eye toward the lesse corner, disdainefull or angrie, for that it maketh vs looke awrie: the two oblique or circular ones shall be called rowling and amarous, because they make the eye to moue priuilie, and to cast out wanton glaunces. All Anatomists doe adde a seuenth muscle, which should couer the nerue opticke, keepe it firme, and stay the eye that it goe not out of his place: but they are deceiued, for there is no such found, but in fourefooted beasts, which haue their eyes so much hanging downe toward the earth; but man ordinarilie carying his face lifted vp to Heauen, had not neede of any such. Some there be which thinke this muscle to be as necessarie for men as beasts, to the making of a setled and direct motion, and such as should resemble the musicall rest, as also to keepe the eye staied and stedfast, when we doe earnestlie behold any thing: but I assure you, that such direct and bent motion is made, when all the fixe muscles together indifferently doe stretch their fibres, as in like sort, when they slacke themselues, the eye standeth not still but

Pleasant deuised names for euery one of the fixe muscles.

The error of the old writers, about a seuenth muscle.

but moueth incessantly. If these assertions doe not satisfie them, then let them shew me this seuenth muscle, that I may beholde it with mine eye, and I will beleeue them.

Chap. VII.

Of the sixe coates of the eye.

THe eye being christallike cleere, and of a wateriſh substance within, required necessarilie, some staying holde by bodies more stable and stedfast, for otherwise the humours would tumble as storme-beaten ships, neuer being at rest. Therefore nature to preuent this mischiefe, hath framed certaine little filmes or skins (which are called of some tunicles or coates) which vnite and fasten together the whole eye, cause the seuerall humors to abide within their proper bounds, and therewith all, conuey their nourishment vnto them. The certaine number of these tunicles is not throughly concluded of: for some make moe, and some fewer. *Hippocrates* doth acknowledge but foure, *Galen* hath obserued fiue, and the Anatomists of our time make vp the number of nine. As for my selfe, hauing with all carefulnes perused the leaues of this booke of nature, I cannot finde any more then sixe, which are, the white, the hornie, the grape-like, cobweb-like net-like and glassie coate. For whereas some doe count of one that should be like vnto the eye-bries; it is nothing else but an appendant part of the vitreous: as that which they call the hard coate, is a parcell of the hornie. As concerning the ninth, which is made of the endes of the muscles, there is no shew of reason, why it should be called a tunicle proper to the eye. For if this were graunted, it would also follow, that the common membrane which couereth the muscles of the eye, should be graced with the same priuiledge. The first therefore and largest of all the rest, is called the white coate, or the white of the eye, or otherwise the coniunctiue membrane: I say nothing in this place of the greeke and latine names, for that a man may see them in mine Anatomie. This tunicle is very strong, and riseth from the edges of *Pericranium*: it compasseth not

The necessitie of the coats of the eye.

That there are but fiue tunicles or coats.

That the white tunicle is the first.

not the eye round about, or euery where: for it endeth at the circle called *Iris*, by reason of the varietie of the colours thereof. I confesse that there are three vses of this coate. The first whereof is, that it letteth all annoyance which might happen to the eye, by the hardnes of the bones about it. The second, to hold the eye firme, least that either by some maner of excesse, or els some ouer violent motion, it should fall out of his place. The third and last, is to stand fast vnto al the sixe muscles, as whereupon they should not faile to finde sure footing.

The threefold vse of the same

The hornie membrane.

The second membrane is called *Cornea*, or hornie, because it is cleere & polished, as the hornes of lanternes be: or because it may be diuided into many little skins or thinne membranes: it is also called hard, because of his hardnes, and for that it commeth from the thicke membrane compassing the braine, called *Dura mater*. The substance thereof is thicke, for the better withstanding of outward iniuries: it is also transparent or through cleere, that thereby the light may quickly passe through it: it is smooth, polished and without all colour, because that seruing as a glasse or spectacle vnto the christialline humour, it would haue made euery thing which wee should haue looked vpon, to haue been of the same colour with it selfe, if it had been of any colour at all: this is also the cause, why there are not any veines or arteries to bee seene in it. But if it happen that this skinne grow white, as sometimes it doth through vlcers in the same, or by hauing been scorched by some hot thing, (in such sort as the Turkes vse them which will see *Mahomet* his sepulcher) the sight is lost, the glasse being darkned.

The threefold vse of this coat.

This tunicle serueth for three purposes. For first it serueth to defend the humours: secondly, to compasse and keepe them in: and thirdly, to bee in stead of a spectacle vnto the christalline humour.

The grapelike coate.

The third tunicle is called *Vuea*, being like vnto the skinne of a blacke grape: it is also called *Choroides*, because it containeth all the vessels which serue for the nourishing of the other coates: or because it commeth from the thin and tender skin compassing the braine called *Pia mater*, which is of *Galen* oftentimes called *Choroides*.

This skinne compasseth the eye round about, except before onely,

onely, where being bored through, it maketh a little round hole, which is called the apple, and is the principall window of the eye, which being shut in by chataracts, causeth vs to liue in continuall darknes: and this is the onely coate that is partie-coloured. On the fore side it is as it were blacke, thereby to hold together the forme of obiects: on the innermost or hinder side it is blew, greene, and of many other colours, thereby to refresh the christalline humour when it is wearied. This skinne doth notable good seruice to the christalline humour, and other parts of the eye. For first it is the meanes to hinder that the hardnes of the hornie membrane should not hurt the christall: then it refresheth the same with the varietie of his colours: thirdly, it keepeth together and hemmeth in the spirits, which otherwise would spend and disperse themselues abroad: and lastly, doth store with nourishment, the hornie and netlike membranes, as also the humours: and this is the cause why nature hath made it soft and full of vessels. The offices of Vuea.

The fourth membrane is called *Aranoides*, because it is very fine, and resembleth the ciper web, or threeds which the Spider draweth out with her feete: it couereth and lyeth close vnto the christalline humour, and serueth to vnite and retaine the formes of things, as the lead doth in looking glasses. The cobweb-like coate.

The fift is the netlike tunicle, ouercast with a million of little threeds, after the fashion of a net. It groweth from the softest part of the sinew of sight, which naturally is giuen to dilate and widen it selfe: and this is the cause why when it is cast into water, one shall perceiue it to be all white, soft, and as it were marrowlike. The vse thereof is to conuey the inward light, which is the animall spirit, vnto the christalline humour, and to carrie backe againe whatsoeuer receiued formes first vnto the nerue optick, and from thence to the braine to iudge thereof. The netlike coate. The vse thereof.

The last is called the vitreous or glassie tunicle, because it couereth and containeth the glassie humour. The learned of ancient time haue not knowne it. There is to be seene in the midst thereof a round circle like vnto the eyebrie: I suppose it to be a number of small veines, which conuey blood vnto the said vitreous humour, that there being laboured, it may be made white and fit for the christalline humour. The glassie tunicle.

CHAP.

Chap. VIII.

Generally of the three humours of the eyes: but more ſpecially of the beautie and excellencie of the chriſtalline humour.

The excellency of the chriſtalline humour.

LOe thus all vailes, ſhadowes and couert being taken away, it is now time to make a plaine and open ſhew of the moſt precious iewell of the eye, that rich diamond, that beautifull chriſtall, which is of more worth then all the pearles of the Eaſt. This is that icelike humour, which is the principall inſtrument of the ſight, the ſoule of the eye, the inward ſpectacle: this is that humour which alone is altered by colours, & receiueth whatſoeuer formes of the things that are to be ſeene. This is that chriſtalline humour, which in more hardie wiſe then *Hercules*, dares to encounter two at once, namely, the outward and inward light. This is that onely chriſtalline humour, which all the other parts of the eye acknowledge their ſoueraigne, and themſelues the vaſſals thereof: for the hornie tunicle doth the office of a glaſſe vnto it: the apple, the office of a window: the grapelike coate is as a fayre flowring garden, to cheare and reioyce the ſame after weariſome labour: the cobweblike coate ſerueth as lead to retaine ſuch formes as are offered: the wateriſh humour as a warlike foreward, to intercept and breake off the firſt charge of the obiects thereof, aſſaying all vpon the ſudden, and with headlong violence to make breach and entrance: The vitreous humour is his cooke, dreſsing and ſetting forth in moſt fit ſort his daily repaſt: The nerue opticke, one of his ordinary meſſengers, carrying from the braine thereto, commandement and power to ſee, and conueying backe againe with all ſpeede whatſoeuer hath been ſeene: The muſcles are his loftie ſteedes and couragious courſers, whereupon being mounted it aduanceth it ſelfe aloft, caſteth it ſelfe alow, turneth it ſelfe on the right and left hand: and finally in euery ſuch ſort, as ſeemeth beſt vnto it ſelfe. In brieſe, this is the principall part of the eye, which I intend to deſcribe, when I ſhall haue ſhewed you that which is before it, I meane the wateriſh humour. All the Anatomiſts agree

That all the parts of the eye are ſeruants to the chriſtalline.

that

that there are three humours in the eyes: the wateriſh, the chriſtalline, and the glaſsie. The wateriſh, called alſo the white humour, hath this name, becauſe it is of the conſiſtence of water, and is (as it were) like vnto the white of an egge. Nature hath placed it before the chriſtalline to be in ſtead of a rampier, to the end it might not be hurt by the hardnes of the membranes, and that the firſt and fierce aſſaults of obiects, might bee ſomewhat rebated: and in ſuch maner, as that it may ſeeme to be an inward meane to conuey the formes of obiects vnto the chriſtalline humour. And looke how the lungs vndertaketh the firſt encounter of the ayre, and maketh it true fauourite vnto the heart: euen ſo the wateriſh humour altereth the light which commeth from without, and reconcileth it to that which is within. This humour ſerueth alſo to water the chriſtalline and to keepe it moyſt: for being drie it can not admit the formes of things. It manageth alſo the ſpirits, which otherwiſe of their owne nature would alwaies be mounting aloft and wandring abroade, and will not ſuffer them in ſuch ſort to ſpend themſelues, being ſet before them as a barre to keepe them in. It alſo keepeth aſunder the grapelike coate and the chriſtalline humour, and ſtretcheth foorth and filleth continually the hornie membrane, that ſo by the withering and ſhrinking thereof the ſight may not bee loſt. This humour hauing all theſe goodly vertues: it is not very like that it ſhould bee an excrement of the chriſtalline humour, as *Auicen* the prince of Arabia for Phiſicke hath ſeemed to affirme. And I am ſo farre from being of his minde, as that I take it for a ſpermaticke part, not yeelding any thing in title of elderſhip vnto the chriſtalline, as hauing ouer and beſides his limited proportion or permanent quantitie, his conſtant abiding place, and his double partition-wall of two membranes, keeping it and the chriſtalline aſunder: whereunto may bee added, that (contrary to the nature of an excrement) if it be once loſt or ſpilt, it can neuer be recouered againe, but cauſeth vs to loſe our ſight.

The deſcription of the wateriſh humour.

Why the watrie humour is ſet before the chriſtalline.

That the watrie humour is a part of the eye.

The next in ſequence is the chriſtalline humour, which is bright and icelike, as is the chriſtall which is pure and well poliſhed. This is the ſteele-glaſſe of the minde, by which it looketh vpon the formes and faces of things, and combineth the lights which before were ſeuerall and aſunder. Some men are of iudge-

The deſcription of the chriſtalline.

ment, that the inuention and vse of spectacles was taken from the christalline humour, because that if it be laid vpon a written paper, it causeth the letters to shew twice so great as they are. The substance thereof is watery, but it runneth not abroad as the others doe; it is faster and more solide, to the end that the formes of obiects may settle themselues therein; it is also through-cleere, and full of light, to the end it may haue some correspondencie with his obiect, which is lightsome; it is of no colour, that so it may receiue all maner of colours the more indifferently: for if the christalline humour should be tainted either with greene, or red, or yellow, all the obiects thereof would appeare and seeme to be of the same colour. Here we cannot but wonder at the prouidentes of nature, which would not haue this christalline to be nourished with blood, as all the other parts of the bodie are, for feare that the blood should make it red, but for the better assurance hath dedicated vnto it the vitreous humour, to turne his nutriment into a white colour, and play the part of a cooke, according as the neede thereof should require. The shape is round, and yet not altogether and exactly spherical, but somewhat flat on the two sides as is a fetch, or the end of a pestell: and this is the reason why the Grecians haue called it φακοειδὴ καὶ ἐγκοειδὴ. I conceiue that it was thus shaped, that so it might abide more firme, and not to be thrust out of his place vpon euery violent motion of the eye. For such things as be exquisitely round, doe moue (as it were) of themselues, and haue no stay, resting themselues but vpon a poynt. It is placed in the middest of the eye, as in his center, to the end it may equally and indifferently intertaine and admit of both the lights. On the hinder part it is vnderlaid with the vitreous humour, and seemeth (as it were) to swimme vpon the top of the same: on the forepart it hath the watery humour, and round about it is wrapped in his proper coate called *Aranoides*.

The substance thereof.

Why the christalline humor is not nourished with blood.

His shape.

His situation.

The third and last humour is called glassie, because it resembleth in colour and consistence the moulten glasse. The chiefe vse thereof is to prepare nourishment for the christalline humour, not that the christalline humour should feede vpon it owne substance, as *Auicen* hath thought. For one part is neuer nourished

The glassie humour.

or fed of the substance of another: but this doth blanch or turne white the blood, and serue for cooke to the christalline. It preserueth also the christalline from all annoyance that might happen by the hardnes of the membranes, and keepeth in the spirits.

The quantitie thereof is in greater abundance then any of the rest: it is clothed with his owne coate, which is more then the ancient learned in this profession did euer attaine vnto to know.

Chap. IX.

Of the sinewes, veines, arteries, and other parts of the eye.

THere are as yet remaining vntouched, though necessarie helpes to the sight, two paire of nerues, and certaine other small arteries. The first paire is called opticke, and it bringeth the animall spirit and inward light vnto the christalline humour. This paire springeth not from the first ventricle of the braine, as the Arabians would haue it, neither yet from out of the midst of the lowest part of the braine, as the Grecians haue perswaded themselues, and as all Anatomists of our time doe as yet beleeue; but from the hinder part of the braine, where the great and little braine doe ioyne together. This obseruation is new, but most true, and I receiue it, because I haue often seene it. The opticke therefore comming from the hinder part, and hauing finished more then halfe his course, incorporateth it selfe the one with the other, and so becommeth one, not growing one vnto another only, as the cõmon sort doth thinke, much lesse onely touching one another, as the mullet doth the milstone, but (as hath been sayd before) they doe in such sort incorporate themselues the one with the other, as that no man is able by any cunning skill to separate them. This incorporation was needfull for that they being very soft, and hauing such a large peece of ground to trauerse, might haue bended and becõming crooked, could neuer haue carried directly forward their spirit, if they had not by this their combination, one strengthened the other. It was meete and conuenient that these two nerues should

The sinew of sight.

From whence it springeth.

Why the sinewes of sight doe grow into one.

The first reason.

The second.

applie themselues wholly to the seruice of the christalline, and that they should bee drawne along as in the same leuell or direct line with the eyes, otherwise the sight would haue bin continually false, for euery simple obiect would haue appeared double. But in very deede it had not been posible for them to haue continued their leuell, being so long and so tender, if they had not been thus vnited in the middest.

The third.

I will yet adde vnto these fomer a third benefit by this vnion, and it is to shew that by this meanes the perfection of the sight is greatly furthered and aduanced: for by this meanes euen in a moment the spirit may passe from one eye to the other, and then the one eye being stopt, the other will become fuller of spirit, and so more strong and able to see a farre off: for so are wee accustomed to doe, namely, to shut the one of our eyes, if we striue to behold any thing a farre off. The opticke nerues after this their vnion, doe againe diuide themselues, and march on forward, either of them grafting himselfe into his proper eye: the inward part of the sinew being marrowish, doth inlarge it selfe and maketh the netlike tunicle: the outward part doth make the mẽbranes called *Cornea* and *Vuea*. *Herophilus*, *Galen*, and almost al other Anathomists, haue supposed this sinew to bee hollow, but it is only spungie: for it is not posible for any man to finde any cauitie in the same.

The infertion of the sinewes of sight.

The other couple of sinewes march on vnto the muscles of the eyes, and serue to help their motion: their diuiding of themselues is pretie, full of kindnes, for they send to euery muscle as it were a little fine thred.

The sinewes of the eye, seruing for motion.

There are in the eye many pretie small veines and arteries, which bring life and nourishment to the same: they all spring from the branches of the veines and arteries called *Iugulares* and *Carotides*.

The veines and arteries.

The fat that lieth about the eye doth keepe it moyst, thereby keeping it from withering: it keepeth it also from the iniurie of the cold, preseruing his naturall heate: which is the cause that the eye is neuer tainted with a shiuering or quaking cold.

The fat.

There are belonging to the eye certaine glandules or kernels which water the eye, as also drinke vp like a spunge, the moysture falling vpon them from the braine.

The glandules.

CHAP.

CHAP. X.

How we see, as namely whether it be by the sending foorth of spirits, or by taking in of the formes of things.

THinke my selfe by this time to haue deciphered exactly enough the whole workemanship of the eye, and of all his parts, let vs now looke about and see how it dischargeth his function, which is sight, and how it is accomplished. All Philosophers haue well agreed in this one poynt, that there are three things necessary for to make the sight perfect: that is to say, the instrument which is the eye; the obiect, which is the colour; and the meanes inlightned, which is the aire, or the water, or some other thorough-cleare and christal-like thing: but when it should come to passe that they should ioyne these three together, and shew the maner of this action, (which is the liuelyest and briefest of all the other sences) they iarre among themselues and cannot agree. Some of them would haue that there should issue out of the eye bright beames or a certaine light which should reach vnto the obiect, and thereby cause vs to see it: other some would haue it, that the obiect commeth vnto the eye, and that nothing goeth out of the eye: the first doe hold that we see by emission or hauing something going forth of the eye, the latter by reception or receiuing of the obiect into the eye. The former sect doe ordinarily alleage *Plato* as their prince and chiefe pillar: one of his principall foundations standeth vpon this, that the eye is all full of light, and of the nature of fire, not such as vseth to burne and giue light together, neither yet that which burneth but giueth no light, but such as giueth light and burneth not, like vnto the celestiall fire. This foundation seemeth to rest vpon some shew of trueth, for the eye being rubbed, (yea though it be when it is most darke) doth cast forth some bright streames: and commonly wee see the eyes of such as are angrie, all fierce and fierie. *Plinie* hath obserued that *Tyberius Cæsar* did make afraid many souldiers with his onely looke, it was so quicke and full of light. *Aristotle* reporteth that

The things necessarie to make vs see.

Plato his opinion, how that we see sending forth of some thing.

The foundation of this opinion.

Reasons to proue the eye to be of the nature of fire.

one *Antipho*, a yong man, did alwaies see his owne image by the reflexe of the bright straines which came forth of his eyes. *Galen* telleth of a souldier, who becomming blinde by little and little, perceiued euery day as it were a light to come forth of his eyes, and returned not againe. And doe we not in the night perceiue the Cat, the Woolfe, and many other liuing creatures to haue shining eyes. Moreouer, the more then credible readines and nimblenes of the eye, the performance of his actions in a moment, and without local motion, his steeple-like shape, doe all euidently testifie, that it is of a subtile nature, and full of fire: the eye also is neuer seene to quake through colde, although it be in the colde, because it selfe is all on a flame. Finally, it cannot bee denied but that the instrument must bee sutable to his obiect, the obiect of sight is colour, and auncient writers haue defined colour to bee a flame going out of bodies: it is of necessitie therefore, that the instrument should be of the same nature. If this be true (I meane that the eye is full of fire and sparkling streames) we shalbe forced to beleeue, that the eye seeth by emission. This is also the most common receiued opinion, and that which hath drawen manie great learned Clerkes after it, as *Pithagoras*, *Empedocles*, *Hipparcus*, *Democritus*, *Leucippus*, *Epicurus*, *Chrysippus*, *Plato*, and in a maner all others which haue written of the eyes. And now take a viewe of their principal reasons.

Reasons to proue that we see, by sending foorth something.

The first.

The Basiliske by his sight poysoneth all them which looke vpon him; women hauing their natural courses, infect the looking-glasses vpon which they cast their eyes. Some report, that if a Woolfe doe first see a man, that then such a man will become hoarse. Men of olde time haue thought, that with the looke one might be bewitched and inchanted, according to the complaint of the Poet: I know not what eye hath bewitched my tender lambes.

The second.

If a man come neere to one that hath enflamed eyes, and behold him earnestly which hath red eyes, without all peraduenture he shall bee troubled with the same disease: all which sheweth that there commeth something out of the eye. Whereupon is it that a great whitenes doth hurt the sight, but onely for that it wasteth the spirits which come forth of the eye? Wherefore should the eye grow weake with looking, but because there

The third.

commeth

commeth out of it too much light, and that all the spirits vanish and fade away? Whence commeth it that such as would see a very little thing a far off, do claspe their eyes, & halfe close their eyelids? It is not that so they may vnite the beames, and ioyne together the spirits, to the end that afterward they may cast them out more forcibly and directly? Go not the Cats on hunting in the night? and then do they cast out some glittering streames. Furthermore, if we should not see by sending something foorth of the eye, it should seeme vnnecessary that the eye should turne it selfe vnto his obiect, the forme thereof should offer it selfe sufficiently to vs, yea, we should see in not seeing. If we should see onely by taking and receiuing something into our eyes, then great eyes should see better then small ones, because they are the more capable: and so also such eyes as haue large apples should see better then those which haue small ones, which is quite contrary to trueth: a small thing should be assoone seene as a great, and it would be as easie to see a farre off as neere, if the formes be al in the aire. Looke wel (say they which write of the eyes) vpon a small needle which hath his point standing vp, yet at the first cast thou shalt not discerne the point: but afterward hauing turned thine eye on the one side and the other, thou shalt see it, because that by such turning, some one bright straine or other, will haue met with it: of the same reason and nature is that which happeneth in small things that are on the earth, a man cannot tell how to behaue himselfe to see them at the first dash. Finally, if we see by taking something into the eye, the eye should containe at one and the same instant two contrarie things, which is against the lawes of nature, neither could it being so smal containe the greatnes, no nor yet the shape of great mountaines: whereupon we must needes conclude, that we see by sending forth something. Behold here all the faire and goodly forces on this side, which I am now about to pitch and plant in the plaine field: and now let vs goe to view the squadrons on the contrary side.

The fourth.

The fift.

The sixt.

The seuenth.

The eight.

The ninth.

Chiefe captaine and generall of the same is *Aristotle*, whose followers be the whole band of the Peripatetikes, as also *Auerrhoes*, *Alexander*, *Themistius*, and an infinite number of others. All these hold that wee see by receiuing something into the eye, and

The contrary opinions of such as hold that we see by taking in something.

and that there doth nothing goe out of the eye which may helpe vs to ſee, but that either the obiect or the forme thereof doth come vnto the eye. The foundation and maine reaſon is cleane contrary vnto that of the Platoniſts: for *Plato* was verilie perſwaded, that the eye was all full of fire, and *Ariſtotle* maintaineth that the eye is all full of water, and this he demonſtrateth moſt excellently, and therefore accordingly I will doe my endeuour to ſet it out moſt plainely. The inſtrument of the ſight muſt be thorough cleere, and tranſparent, that is to ſay cleere as chriſtal, to the end there may be ſome likenes betwixt the obiect and the inſtrument, and that there may be ſome equality betwixt the thing doing, and the thing ſuffering. This principle is cleerely agreed vpon in naturall Philoſophie. But of the things which are chriſtal-like cleere, ſome are of ſubtile and thin bodies, and otherſome are more compact and thicke. The eye was not to be made chriſtal-like cleere and thin, becauſe ỹ ſo it could not haue retained his formes, they would haue ſpeedely paſt away, not finding any reſting place, as doe the bodies which are in the ayre: and the glaſſe it ſelfe which is in looking glaſſes, would neuer make ſhew of any picture or reſemblance, if it were not ſteeled or leaded on the backeſide? Whereupon it followeth that the eye muſt be chriſtallike cleere and thicke. Now of all the elements there is no one that is ſo cleare and thicke beſides the water, for the ayre and fire are in deede cleere, but therewithall thin: it followeth therefore, that the eye is of the nature of the water. This firme and demonſtratiue argument is vnderpropped by another which cannot be gaineſayd. The chiefe part of the eye is the chriſtallike humor, which is nothing elſe, but a congealed water, which hath before it the wateriſh humor, and behinde it the vitreous which doth feede and nouriſh it: if you pearce the eye, you ſhall not perceiue any other thing to come forth but water, ſo that we muſt rather beleeue that the eye is of the nature of water, then of fire. This foundation thus laid, it will be eaſie to make ſure the reſt of the building, and to maintaine that we ſee by receiuing of ſome thing into the eye; and the rather, becauſe it is the propertie of moiſt things to receiue and take in. Loe here the chiefeſt reaſons of this ſect as they follow. The action of euery ſence is a ſuffering, and to doe the office of any of the ſences, is nothing elſe

A cleere and plaine proofe, that the eye is all of water.

Another plaine and ſtrong proofe.

Reaſons proouing that we ſee by taking in ſomething.

but

but to suffer: euery action therefore of the sences is accomplished by receiuing, and not by sending forth of any thing, which is an action; as for example the eare heareth by receiuing of sounds; smelling, by receiuing of odours; taste, by receiuing of tastes; and feeling, by receiuing of such qualities as may be felt: and then why should the eye be debarred of this receite? *Aristotle* saith, that they which haue their eyes very moyst, doe seeme to see things bigger then in deede they bee, which argueth that the formes of things are receiued into, and as it were, grauen in the christalline humor: for bodies seeme alwaies to exceede themselues in greatnes, being within the water. Euery obiect exceeding in his qualitie, doth destroy his sence, as an exceeding great whitenes doth dimme and dasle the sight: then it must follow, that it is violently receiued. *Aristotle* in his Problemes moueth a question, which may be of some force in this place: as, wherefore the right hand is ordinarilie more nimble and strong then the left, and not one eare giuen to heare more readilie then the other? Whose answer is, that the facultie which causeth the hands to moue, setteth it selfe on worke, and that that which causeth sight and hearing is set on worke: in such sort as that the eyes and eares may equally receiue and suffer. Olde men commonly doe see things a farre off, better then those which are at hand, and this cannot happen of any fierie streames or light, going out of the eye, because that those in them are of small quantitie, and greatly delayed with darkenes; the cause must needes be referred to the forme, which comming from a thing farre remoued, becommeth more fine and subtile, and lesse participating of materiall substance, and by consequent no more fit to be receiued. In winter if the weather be calme and faire, the Starres are often seene at midday; which neuer happeneth in summer; which is, because in winter the ayre being more grosse and thicke, the formes thereof doe consist and abide more permanently, as also in greater number in the ayre: but in summer by reason of the thinnes and subtilenes of the ayre, their saide formes, haue no staide abode or meanes to multiplie: and this sheweth, that we see by receiuing in, and not sending forth of any thing. Finally, the eye is like vnto the looking glasse, and this receiueth all such shapes as are brought vnto it, without sending any thing of

The first. The second. The third. The fourth. The fift. The sixt. The seuenth.

it owne vnto the obiect. They differ onely in this, that the looking glasse hath no power to recommend his formes and shapes vnto their iudge, as the eye doth vnto the common sence by the nerue opticke. Loe here the two battels orderly in array, and right ouer one against the other, I could wish my selfe able to agree them, being the same that *Galen* hath attempted, but in deede there is little likelihoode. For the trueth cannot vphold and defend two things, contrary one to the other. I will therefore set in foote with the stronger side, and maintaine with *Aristotle*, that wee see by receiuing only, and that there goeth nothing out of the eye, which may serue for the making of vs to see. I will vse for my first incounter this reason, which as it seemeth me is sharpe enough. If there goe any thing out of the eye, it is either some fine and subtile bodie, as the animall spirit, or els some streame onely. If it be a bodie, how can it bee carried forth with and in a moment as high as heauen, seeing that euery bodily substance requireth time to moue in, but the sight is finished at one instant? This bodily substance shal it not be beaten, scattered and deceiued by the winds, before it come to the obiect? This bodie thus going forth of the eye, shal it pearce the ayre? or shal the ayre giue place to it? pearce it cannot, because that nature can no more abide the pearcing of bodies, then she can abide that there should bee a place wherein should bee no bodie: if the ayre make way for it, then there will neuer be any sight: for so the coherence and continuitie of straines would bee interrupted, because the ayre would follow it hard at the heeles, and thrust it selfe betwixt the two. If to auoyde the push of these pikes, which yet are sharpe enough, thou wouldest say, that that which goeth out of the eye is a bright beame or light, which pearceth the ayre, and communicatethit selfe in a moment with all that which is the meane, as doth the shine of the Sunne, which inlighteneth the whole ayre without any motion; I will vrge thee more neerely, and will cause thee to see that there is not light enough in the eye to reach vp to heauen. Marke well and consider, that a flame of fire casteth not his streames any further then the proportion of the bignes thereof will beare it out: one candle cannot giue light enough to one whole parlour, and how canst thou imagine that this little member should bee able in a

The Author his opinion.

Arguments plainly conuincing the Platonists.

That it cannot bee any bright beame which goeth out of the eye.

moment to reach heauen with his bright beames? It is no difficultie for the Sunne, becauſe it is as great as the whole earth, to caſt forth his beames, and to ſpread them ouer the whole world, but it cannot bee ſo ſayd of the eye. Therefore there can nothing goe forth of the eye, that can reach to the things to be ſeene. Furthermore, if the ſtreames going foorth of the eye ſhould bee the cauſe of ſight, then they ſhould returne vnto the eye againe, or els ſtay by the way: if they come not backe againe, neither can they make returne of ſuch bodies as they touch; if they do come back againe, yet there is nothing but bright glittering bodies, which can bee ſeene, becauſe no other then theſe giue any reflexion, and ſo it ſhould follow, that huge and great hils ſhould not bee ſeene. Let vs ſay more, that if theſe ſtreames ſerue to cauſe vs to ſee, that then of neceſsitie, they muſt either returne emptie or laden with their backes full of bodies: if they come emptie, there will be nothing to ſee: if they bring formes or ſemblances of things with them, then haue wee our deſire, that is, that wee ſee by receiuing ſomething into the eye. As concerning the foundations of the Platoniſts, it is eaſie to ouerthrow them all. I confeſſe that the eye hath great quantitie of brightnes in it, but it proceedeth not from fire, it commeth of the chriſtalline humour, and of the ſhining of the tunicles: for all poliſhed ſubſtances, being after the maner of the hornie membrane, doe ſhine in the darke. The action of the eye performed on the ſudden, and the great quicknes of the ſame, cannot compell me to thinke that it is full of fire. For, the action is ſudden, becauſe the eye receiueth but the bare ſhapes or likeneſſes of things without matter and bodie. For the nimblenes and dexteritie thereof, we may conceiue that it is no great peece of worke for ſixe muſcles readily to moue ſo ſmall a member. The eyes doe not at any time quiuer with colde, becauſe (as *Ariſtotle* ſayth in his Problemes) they bee full of fat, which accidentarilie doth keepe them warme, as our garments doe vs: or becauſe they be in continual motion. There is no fire then within the eyes, there is nothing to be found but water, chriſtall and glaſſe. And as for ỹ reaſons which they alleage, they be very light: for the Baſilisk and the inflamed eye do not infect vs by the bright beames which come from them, but by a naturall ſubſtance, which is very ſub-

The ground-proofes of the Platoniſts.

Anſwere to the reaſons of the Platoniſts. The firſt.

tile, that is to say by a vapour insensiblie breathing out of the whole bodie, which infecting the ayre, is by it transported to vs.

The second. That which is alleaged of the wolfe, is no better worth then to bee derided. And as for any inchantment proceeding from the eye, we hold, that naturally there can no such thing bee. Exceeding much whitenes doth ouerthrow the sight, because it draweth out all the spirits, which ought to keepe within the eye, to enable it the

The third. more vnto the performance of his office. The eye groweth weake and wearie with looking, as euery other part will doe, which is, for that the naturall heate and spirits (which labour and take paines in the motion of the eye, as also in the holding of the same still) doe

The fourth. spend and waste themselues. Wee doe halfe shut our eyes, when we would see a farre off, not to the end to vnite the shining straines of the eye, but rather that the outward light should not suddenly

The fift. rush in and scatter the inward. The eye must needes turne it selfe towards his obiect, because sight doth neuer act but by a direct

The sixt. line. Great eyes, and those apples of eyes which are broad, see not so well as the contrary, because the inward spirits are thereby lost, being very necessary in the receiuing of those formes which are to

The seuenth. enter into the eye. As concerning the needle, I answere, that at the first wee see not the poynt, because it is not proportionable.

The eight. The receiuing of two contraries and of the most huge mountains, is no absurditie, seeing the eye in all cases medleth with nothing but the formes of the things, which are without all matter and substance. Wherfore let nothing let vs to conclude, that the sight is effected by the receiuing in of some thing. But the maner of this receiuing is a very difficult thing, and vnderstood of a very few. To make plaine therefore the same, I will doe my indeuour to search out, what it is that the eye receiueth; in what part it receiueth the same; when it receiueth in any thing and how. Concerning the first poynt, I finde great oddes in opinions. *Democritus* and *Leucippus* doe firmely hold, that wee receiue in bodies more small then that they will suffer any diuision. *Epicurus* thinketh that we receiue in the only beames of the obiect. *Alexander* the Peripatetick, the image of the obiect, and that not as in his proper subiect, but as it were in a looking-glasse. *Aristotle* maintaineth, that we receiue in nothing but the forme which is produced of the obiect,

A plainer declaring of the maner of receiuing in something.

What it is that the sight receiueth or taketh in.

obiect, and multiplied or continued in an vnseparable continuitie in and by the ayre, as the bodie maketh and produceth the shadow, and the Sunne the light. And this is the soundest iudgement of all the rest, but such as needeth a plainer declaration: for euery man is not able at the first blush, to vnderstand what is meant by the forme of the obiect. We affirme then that this forme hath not his seate and place in the vnderstanding, as also that it is not the same which schoolemen call *Ens rationis*, but that it is a certaine reall thing seated in the ayre and eye. Now whatsoeuer hath a reall being, is either a substance or an accident. This forme cannot be a substance, because that thereby it should be more noble and perfect then his obiect which is colour. Then it is an accident. But what kinde a one? Shall we call it a quantitie? No, for then it would haue the allowance either of height, bredth or depth: and we dare not call it a relation, because relation hath not the force to doe any thing, but this forme causeth vs to see. And least of all may wee reduce and bring it vnto the predicament of Action: It must then needes bee a qualitie, without matter or bodie, and vncapable of all maner of diuision: such a forme is called of the Philosophers intentionall, which hath respect vnto the obiect, and is immediatly produced and made shew of, as the shadow of the bodie. This forme doth multiplie it selfe throughout the ayre: for the ayre being subtile & moyst, is apt to receiue all the formes: and receiuing one part of the obiect, representeth the whole obiect. This forme is not seene, but maketh vs to see, for there is nothing but the obiect which can be seene.

That the eye receiueth nothing but the formes of things.

What this forme is.

Some man may demaund, how this forme altereth the sight in vniting or dispersing of the spirits, it selfe being voyd of al matter? for whitenes disperseth the spirits, and blacknes keepeth them together.

Question.

I answere, that this alteration commeth not of the forme, but of the light which commeth of the colours. And it is most certaine that a great light wasteth the sight, because our spirits which are very subtile and light, come foorth to ioyne themselues vnto this outward light: on the contrary, they beholding darknes and a blacke colour, withdraw themselues, shunning their enemie. There is nothing then but a forme without matter which is receiued,

Answer.

ued, and hence it is that we see a thing in a moment, and not by intermission of time, as al the other sences haue their operations and actions. Now let vs see in what place, that is, whereabout or in what part of the eye this forme is receiued. Some there are which thinke it to be receiued in the braine, because it is the seate of common sence, and for that there is none of the sences which hath not his originall from the braine. *Auicen* did verely thinke, that this receipt was where the nerues optickes doe ioyne together, and that the obiect doth not appeare double, because the formes are vnited in this coniunction of the sinewes. Others are of minde, that this receipt is accomplished in the cobweb-like tunicle, which is more cleere and bright then any looking-glasse. But we hold with *Aristotle*, *Galen*, and the trueth also, that this receipt is effected in the christalline humour, because this is the most noble part of the eye, hauing such a substance as none other hath, and the same seated in the middest of the instrument, as in his center, where the two lights doe meete each other; the outward, which entreth at the apple of the eye, as at a window; and the inward, which is brought thither by the nerue optick. Notwithstanding, if thou bee disposed to reconcile all these seuerall opinions, thou maist say that the receipt is made in the christalline humour, the rebating of their violence in the tunicles, the perfect consummation in the coniunction of the nerues optickes, the knowledge, triall, or discerning of the same in the substance of the braine. Of all this long discourse these are the fruites which we shall reape; that the sight is effected onely by receiuing of some thing into the eye, and not by sending any thing out of it; that the christalline humour (being the chiefe instrument of sight) receiueth nothing but formes, which are as the shadowes of things that may bee seene; that these formes being produced and multiplied along throughout the ayre, are by a direct line and not else receiued, and that at an instant. I am constrained to adde this disputation in this small treatise of the eye, as hauing been vrgently pressed, or rather expressely commanded to doe the same.

In what part of the eye this receipt is made.

The true and proper meanes by which we haue sight.

CHAP.

Chap. XI.

How many waies the sight may be endamaged and hurt.

THe whole discourse, which I haue gone about to make concerning the excellencie of the sight, the cunning workemanship of the eye, and of all his partes, (besides the delight which it will bring to such as are curious) will not (in my iudgement) be vnprofitable vnto them, which shall earnestly desire to know the diseases of the eyes, and would vndertake to heale and cure the same. For we holde it for a principle in phisicke, that no man can know that which happeneth contrarie to nature in any part, if he doe not first know that which is naturall vnto the same part. The direct (saith *Aristotle*) in his first booke of the soule) or straight line, is a rule both to iudge it selfe and the crooked by. It behooueth then that the Phisition should know the naturall state of the eye, and whatsoeuer is needefull for the execution of his office, if so be he be desirous to know how many waies it may be hurt. Euery action (as *Galen* obserueth in many places) may be hurt three waies, for either it is wholie lost, or else greatly impayred, or else corrupted and depraued. These three faults may happen to the sight, the impeachment or weakenes thereof is ordinarie with olde folkes; the sight is then depraued, when the obiect sheweth other then it is, the vtter losse thereof is called blindenes. The sight groweth weake, either through default of his faculties, or through the euill disposition of the instrument. The facultie which is that power of the soule, which maketh vs see, hath his seate in the braine: if then the brain be altered in his temperature, (as whē it falleth out to be too hote, cold, moyst or drie; or when it is not fashioned well & commendablie) then all the sences will bewray a great impeachment in their actions, but aboue all the rest the sight, because the eye being next neighbour vnto the braine, and of a merueilous simpathy with the same, will suffer first of all. The euill disposition of the eye, weakeneth the sight very oft, although that the facultie be in-

How many waies a function may be hurt.

How the sight is weakened.

tire

tire and strong. Such disposition is found sometimes in the whole eye, as when it is too fat and great, or too small and leane, sometimes in some speciall parts thereof, as in the tunicle, humors, muscles, spirits, sinewes, veines and arteries, vnto euery of which doe happen their particular diseases, which I will runne through in the chapter following.

The sight depraued and falsified.

The corrupting or falsifying of the sight falleth out; when the obiect sheweth it selfe to be of another colour, forme, quantitie or situation then it is; as for example, if a white thing should shew yellow or red, because the instrument of sight is tainted with some colour: this it is which maketh them that haue the yellow Iaundise, to see euery thing yellow: when the thing which standeth fast, seemeth to moue, as it falleth out in them which haue the disease, called Vertigo, through the disordered and extraordinarie mouing of the spirits; and when one single thing seemeth two, and this falleth out, either through default of the instrument, or through the euill situation of the obiect, or of the eyebeames. If both the eyes be not in one and the same leuell, but that the one be high, and the other low, out of doubt euery thing which they behold will shew double: the causes hereof are oftentimes a palsie in the one, and a conuulsion in the other. The nerue opticke also being relaxed and mollified on the one side, causeth all things that are looked vpon to seeme double, as it happeneth to such as are drunke. If you presse and beare downe the one eye with your finger, not touching the other, you shall see euery thing double, of which misfight the situation of the instrument is the principall cause: and the situation of the obiect is the next. As if you whirle a staffe round about, you would thinke that it were a circle, and if long wise, you would iudge it to be nothing but a long stretched line; which happeneth by the swift mouing of the obiect out of his place, for so, before the first figure be worne out, a second commeth into his place. The last cause consisteth in the diuerse situation of the eye beames; as if you looke your selfe in a crackt looking glasse, your face will seeme two faces vnto you.

The losse of the sight.

The vtter losse and depriuation of the sight, which we call blindnes, commeth either of the drinesse of the humors, or of the hindring of the two lights, that they cannot meete and ioyne toge-

ther

ther in the christalline humour. The inward which is the animall spirit, is hindred by the obstruction of the nerue opticke, and this disease is called *gutta serena*; the outward is hindred by the cataract, which shutteth the apple of the eye, the window of the christalline humour. Therefore the sight cannot be hurt, but by one of these three waies.

CHAP. XII.

A briefe rehearsall of all the diseases of the eye.

I Doe not intend here to trouble my mind in drawing forth an exquisite description of all the diseases of the eye, the attempt would be too great, and I could not make so few as twentie chapters of the same, seeing there are so many particular diseases of the eye. I will content my selfe to lay out the way and best ordered course thereunto, for the benefite of young Phisitions and Chirurgeons, for whose sake I haue made choice of this chapter.

Now then as concerning the diseases of the eye, some of them are common to the whole member, some others are proper vnto some particular part of the same. Those which concerne the whole eye, are either similar or instrumentall, or common. The similar ones, are the moyst, the drie, the hote, the colde distemperature, as also the simple, the compound, the distemperature without matter, and that which is accompanied with matter. The instrumentall doe shew themselues in the euill shape of the eye, as when it is ouer great or ouer little, or not so situate as were requisite for comelines and vse. The diseases comming of the bignes of it, are when the eye is either too great or too little; the great eye is called the oxe eye, it hindereth the action of the eye, for the sight is not so quicke, by reason of the excessiue expence of spirits, neither is it so readie in motion. The cause of this greatnes is either the error of the first forme and shape committed by nature, or else some accident whether flegmatike humor, or inflammation, or

The diuision of the diseases of the eye.

The diseases to be referred to the whole eye.

The greatnes of the eye.

elſe ſome great fluxe of humours falling down vpon the ſame. The
The ſmalnes of the eye. diſeaſe contrarie to this, is the ſmalnes of the eye, which either is the worke of nature, and is called the Pigges eye, or elſe happeneth by ſome other meanes, as by waſting of the naturall heate, by ſuffering of intollerable paines, much watchings, ſharpe rhewmes, and continuall agues: in ſuch caſes the whole eye being weakened, it attracteth not his naturall nouriſhment, or though it doe, yet it cannot concoct it, and this diſeaſe is called the pining away, or leanenes of the eye.

The eye bolted out. The diſeaſes of ſituation is when the eye is out of his place, as when it commeth out, and when it falleth quite downe; if it come forth, it is called a falling out of the eye, in greeke ἐκπτωσις. *Auicen* obſerueth, that it happeneth either of an outward cauſe, as of a blowe, a fall, or ſtraine in coughing, vomiting, blowing, or of an inward cauſe, as of ſome ſuddaine falling down of humors, which looſeth all the muſcles and whole bodie of the eye, or of a great inflammation or other humor.

Solution of continuitie. The common diſeaſe is called the ſolution of continuitie, which happeneth when the eye is burſt, or when all the humours thereof are mingled and iumbled together.

Loe theſe be the diſeaſes which may be referred to the whole bodie of the eye: for the diſeaſes called *Nictalopia*, *Myopiaſis*, and *Amblyopia*, are Symptomes, touching onely the ſpirits or humors, and not the whole eye.

The particular diſeaſes of the eye. The particular diſeaſes differ according to the parts of the eye. Now we haue alreadie obſerued for parts of the eye, the humors, coates, ſinews, and muſcles of the ſame: ſo then there are diſeaſes proper vnto euery one of theſe parts, I will begin to deſcribe thoſe which happen to the humours, as being the nobleſt parts of the eye, as alſo becauſe *Galen* in his booke of the cauſes of accidents hath taken the ſame courſe.

The diſeaſe of the chriſtalline humour. Glaucoma. The chriſtalline humour is ſubiect to all maner of diſeaſe, but the moſt vſuall is a drie diſtemperature, and his going out of his place. His drie diſtemperature is the cauſe of an accident, which the Grecians call γλαύκωμα, which is a ſhrinking together, and drienes of the chriſtalline humour, thereby becomming as it were white. *Hippocrates* in his third booke of Aphoriſmes obſerueth

that

that this disease doth seldome happen but to olde folke, and wee iudge it incurable. The christalline may shift out of his place many waies: for either it may shift to either side, or rise higher, or fall lower, or it may shrinke further into the eye, or come forward toward the forepart of the eye. Howsoeuer it remoue and shift, it hurteth the sight very much: if it bee sunke farre backe into the eye, it causeth that wee cannot behold things which are neere at hand: if it be set too forward, it letteth from seeing a farre off: if it be more to the one side or to the other, we see a squint: and when it is too high or too low, euery thing seemeth two, becausse they are not leuell.

The accidents that fall out when the christalline humor is remoued out of his place.

The watrish humour being also a part as well as the others, hath his particular diseases. If it be too much dried, as it falleth out very oft in cataracts, it taketh the sight cleane away. If his store be greatly diminished, the christalline humour drieth, the grape-like coate withereth, the hornie membrane shrinketh, and the outward light is not rebated. As concerning the glassie humour, writers haue not noted any diseases properly belonging thereto: but, in my iudgement, it is subiect to the same affects that the watrish, both in his temperature, substance, and quantitie.

The diseases of the wattie humour.

The tunicles of the eye are fiue, but there are not any moe then three, which haue been noted to haue particular diseases, that is to say, the coniunctiue, the hornie, and the grape like: for no man hath designed any vnto the cobweb-like, net-like or glassie one.

The diseases of the coates.

The diseases proper vnto the coniunctiue are three; inflammation, the naile called in Latine *Pterigium*, and mortification. The inflammation of this membrane is sometime so sleight, as that it healeth of it self, and then it is called of the Grecians πάχυσις. The cause thereof is for the most part outward, as smoke, winde, the Sunne, dust, open ayre, the smell of onyons: if this inflammation be greater, it is absolutely called *Ophthalmia*: if it bee very great, in so much as that it causeth the white to be very much puffed vp, and thereby the apple of the eye to seeme to stand in a hollow, the Greekes doe call it χήμωσις. There are inflammations proceeding of blood, others proceeding of choler, others of fleagme, and some of melancholie: *Galen* speaketh both of moyst & drie ones; *Hippocrates* of symptomatical and criticall ones; *Trallian*

The diseases of the white coate. Inflammation.

The differences of the inflammation of the eye.

of such as are accompanied with a consumption, and such as are not of maligne ones, such as are vsuall in the plague time, & such as are not maligne; of continuall ones, and such as keepe ordinary returnes. The second kind of disease is called *Pterigium*. This is a sinewy flesh, which beginneth to grow most commonly at the great corner of the eye, and from thence spreadeth it selfe like a wing vnto the apple of the eye: it is also sometime like vnto a naile, it followeth very often the inflammations that are not orderly cured, it is accompanied with some itching, as also with a little rednes and with some teares. There are many kindes of it, which are all distinguished either by their colour, or manner of fastning of themselues, or by their substance, or greatnes. As for the difference of colour, there are white, red, and yellowish ones. They differ in respect of their fastning, because some sticke fast and close to, whereas others doe suffer themselues to bee easily separated. They differ in substance, because some are thicke, and some thin, some soft, some hard, some membranous like skinnes, some fatty and like vnto grease, and some varicous, which are like vnto a net, knit and made of many small veines and arteries. The bignes maketh the last difference: for some are so small that they passe not the white: othersome so great, as that they reach vnto the apple of the eye, and doe greatly hinder the sight.

The naile.

The seuerall sorts of it.

Mortification. The third and last disease proper to the white tunicle, is called ὑπόσφαγμα blacknes, or the mortification of the eye. *Paulus Ægineta* and *Ætius*, had defined it a bursting of the veines of the eye, which causeth the blood to settle it selfe all vnder the white tunicle, and the hornie also, making all things seeme red vnto the eye. The cause hereof is ordinarily outward; as some blow or fall: sometimes it is inward, as the fulnes of the veines and the thinnesse of the blood. There are some other diseases of the white tunicle; as pustules and white spots in maner of a skarre, but they are common with this vnto the hornie membrane.

The diseases of the hornie membrane. The diseases of the hornie membrane are, pustules; common, maligne, and cankerous vlcers; the retention of purulent matter called ἕατόμον: the skarre and the rupture. The pustules are called φλύκταιναι of the Grecians, and *Bothor* of the Arabians. These are like vnto little bladders, proceeding of a thin and wateriſh humour,

Pustules.

which

which gathereth amongst the small skinnes of the hornie membrane, and setteth them vpon the stretch. Their differences are knowne by their colour: for some are blacke, and therefore growing betwixt the first and second leafe: and some are white, and do grow betwixt the third and fourth leafe. They differ in situation, because some are more superficiall, and others more deepe. They differ in respect of matter, because some doe rise of a cholericke humour, others of a cleere and thinne water. If the purulent matter continue long after that the pustules bee broken, it maketh an vlcer in the hornie membrane. The Phisitions both Greeke and Arabian make seuen sorts of vlcers, three inward, and foure outward: the first of the inward is called βόθριον, of *Paulus Ægineta* and *Auicen annulus*, of others *Fossula:* that is to say, a small, streite, hollow vlcer, hauing no matter in it: the second is wider and not so deepe, *Paulus* calleth it κοίλωμα, *Auicen, lilimie*: the third is very filthie and crousti, the Grecians call it ἰπίτεγμα, the Arabians *Alficume*. The outward vlcers are foure: the first is like vnto a grosse smoke, and maketh the apple of the eye blacke, they call it ἄκλυστα: the second is more white and deepe, and is called περίλυσον: the third is round, and appeareth in the circle of the eye; this is *Paulus* his ἄργεμον: the fourth and last is very filthie, of the colour of ashes, much like to a locke of wooll, which is the cause that *Auicen* calleth it the woollie vlcer. *Galen* was the first that obserued all these differences, in a little treatise of the eyes, but hee gaue not particular names to euery of them: and throughout this whole treatise there is one notorious fault to be found, which is, that this word inward is alwaies put for the word outward, and contrariwise. *Manardus* hath gone about to carpe at *Auicen*, for notes of difference which hee hath set downe about these vlcers, but hee hath no iust reason so to doe. There grow other vlcers in the hornie membrane which are maligne, and are tearmed νόμαι and these fret and spread vnto the muscles and eyelids. There are also in the horny membrane cankerous vlcers accompanied with pricking paines; these are bred of a sharpe and melancholike humour, being of the nature of a canker. The skar is a disease of the horny membrane: for it taketh from it his colour and cleerenes, making it altogether white, it is called λεύκωμα, or *Albugo*. *Hipopion* commeth very neere

The diuers sorts of pustules.

Vlcers commonly happening in the hornie membrane.

Three vlcers within the hornie membrane.

The foure vlcers in the vter part of the horny membrane.

The correcting of a peece of text in Galen.

Maligne vlcers.

Cankerous vlcers.

A skarre in the hornie membrane.

Hypopion.

vnto it, for it is a collection of purulent water, possessing the blacke of the eye. Lastly, the hornie membrane is sometimes bursten, and then it causeth a disease, which is proper vnto the grape-like coate, which we will describe hereafter.

Rupture in the hornie membrane.

The diseases of the grape-like coate.

In the grape-like tunicle we are to consider a bodie and a hole, which is the apple of the eye: the body or substance of it hath a particular disease, which is the falling downe of the same: the apple of the eye is subiect vnto three notable diseases, which are the excessiue widenes and narrownes of the same, and the cataract.

The falling downe of Vuea.

The falling down of *Vuea* is called of the Greekes πεῤπτωσις, which cannot happen without the bursting or fretting asunder of the hornie membrane which is made to serue in stead of a barre vnto it: the rupture of *Cornea* is almost alwaies of an outward cause, but the fretting a sunder of the same is of an inward. There are ordinarily made foure kindes of this falling downe of *Vuea*, which differ only in greatnes: for if it doe fall downe but a very little, it is called μυιόφαλος the head of a flie, but of *Auicen, Formicalis*, if yet it fall downe more, and as it were to the greatnes of the skin of a grape, it is called σταφύλωμα: if yet it fal down further and hang as it were a little apple, it is called μῆλον: if vnto all this it grow hard and become brawnie, it shalbe called ἦλος, *Clauus*.

Foure kinds of the foresaid disease.

The diseases of the apple of the eie.

The apple of the eye hath three diseases, for either it becommeth too broade or too narrow, or else altogether shut vp. The ouer much broadnes called of the Greeks μυδρίασις, is a disease of the instrument, because that the hollownes thereof is greater then it ought. *Galen* maketh two kinde of this dilatation, the one naturall, the other accidental, both of them doe hurt and hinder the sight very greatly, because the inward light doth spend it selfe too fast, and as *Auicen* sayth the formes of things are not receiued so quickely and sharpely as they should: This dilatation commeth of too much narrownes of the grape-like tunicle, and it is made narrower, either by being swelled vp by too much moysture, or drawne together by extreame drinesse: moisture if it bee without mixture paralyseth the membrane, but if it bee ioyned with matter, as it is in the tumours, absceesses, and other fluxes falling vpon the eye, then it trusseth it vp (as it were) into a narrower roome. Dryneſſe doth pull in the edges of *Vuea* making larger

The disease Mydriasis.

The causes of such dilatation

the

the hole, as we see parchment that is very drie. The disease contrary to this is called of the Greekes ἀπλότης, the consumption or straitnes of ỳ apple of the eye, that which is according to nature, is very auaileable for the sight, but that which is accidentary, doth no good, but hurteth alwaies: the cause hereof is the falling together of the edges of the grape-like coate: it shrinketh together through great store of moisture, which is no where else, but on the side of the hole; or else by reason of the wasting of the watersh humor, which filled all this space. The last disease of the apple of the eye, is called of the Grecians γλαύκωμα, of the Arabians a drop or water, of the common people a Cataract or a pinne and a web. We define it to be an obstruction of the apple of the eye, caused of an vnnaturall humour, which hauing fallen downe thither, groweth thicker by little and little, betwixt the hornie membrane, and the christalline humour. The next cause thereof (called the continent cause) is an vnnaturall humour, and herein it differeth from *Glaucoma*, which happeneth through the congelation of the naturall humors of the eye; this humour at the first floweth like water, but in the end it thickneth and resembleth more an earthie substance. This is the cause why *Paulus* in his third booke defineth a Cataract or suffusion by this word effusion, and in his sixt booke by this word concretion, or congelation, in the first place, speaking of that which was the beginning of the disease, and in the second, of that whereunto it was growne. This humour, if we will beleeue *Halyabbas*, *Haly*, and *Azarauius*, is gathered betwixt the grape-like coate, and the christalline humour; but if we had rather beleeue *Auicen*, *Mesue*, and *Albucasis*, wee must thinke that it gathereth betwixt the hornie and grape-like tunicle. As for my selfe, I thinke it may abide in all that space, which is from the inner part of the hornie coate, euen vnto the christalline humour, and that it oftentimes mixeth it selfe with the watersh humour. This web or spot doth hinder the sight many waies: for if it stop all the apple of the eye, which is the window of the eye, the sight is cleere lost: if there be but one part of the window shut, as the right or left, the vpper or nether, the eye will then see the obiects that shall be set before it, but it cannot see any more then one at a time: if the obstruction be euen in the middest of the apple

The diminution of the apple of the eye.

The Cataract.

The cause of the Cataract.

The place where the humour causing the Cataract is setled.

apple of the eye, all the things which it beholdeth, will seeme to be deuided, and as it were clouen, and withall it is not possible for such persons to see the middest of the obiect: if the water be not as yet gathered close together, but that it be scatteringly dispersed here and there, one shall see as it were flies to flie in the ayre.

The differences of Cataracts.

The differences of Cataracts are gathered from their greatnes, substance, colour, fastning, situation and maner of growing. For there are some great, and some small, some thicke, and some thin, some white, some of colour like ashes or chalke, some red, some blacke, and some of a citrine colour.

Their inward causes.

The inward causes are the humours and vapours which grow thicke, the humours come either from the braine, by the sinewes, veines and arteries, or else are ingendred in the member it selfe, by reason of the weakenes of the concocting and expelling facultie.

The imaginations going before Cataracts.

Cataracts haue alwaies for their forerunners, certaine false visions, which men call imaginations: for men thinke they see flies, haires, or threeds of a spider web in the ayre, which yet are not there. The cause of these visions is a darke shadowie vapour, got betwixt the hornie membrane and christalline humour. This vapour sheweth not it selfe in his proper forme: for then the grape-like coate should as well be seene, but in one of those formes which are in the ayre: it is true that the christalline humour iudgeth these vapours to be without the eye, because it is so accustomed to see outward obiects, that it thinketh that which is within the eye to be without it. These vapours rise sometimes from below, sometimes from the humours which are in the braine, or in the eye it selfe.

The diseases of the muscles of the eye.

The diseases of the muscles of the eye, are principally three, the wrested or wrie eye, the shaking eye, and the astonished eye.

The wrested eye.

The wrested eye is called στρεβλότης or διαστροφή, and is caused either of a Palsey, affecting some of the muscles, and then the part diseased, yeeldeth vnto the sound part: as it happeneth in all other parts that haue the Palsey and opposite muscles: or else it is caused of a conuulsion, affecting some of the muscles, and then the sound part of the eye yeeldeth vnto the diseased. Whatsoeuer it is, this

The diuerse sorts thereof.

disease is caused either of drynes, or of superfluous moisture: now in this disease the eye is wrested and set awrie many waies, as on high, a low, and then there is nothing seene but the white of the

eye:

eye: *Hippocrates* calleth it ἴυσις, where the eye is wrested to either side, and maketh the squint eye. The shaking eye, called ἴππος is a fault in the muscles of the eye, being so much weakened, that they cannot holde the eye still. All the auncient writers haue beleeued, that this shaking of the eye did proceede of a seuenth muscle, which doth imbrace the nerue opticke, but they deceiued themselues: for it is not found in men as I haue shewed in the historie of the eye. I beleeue then that as the pausing motion, which naturallie holdeth the eye firme and immoueable is then accomplished, when all the sixe muscles draw equally: that euen so this shaking is caused, when the said muscles loose their fibers, not drawing or bending the same at all. There is a disease cleane contrary to this, as when the eyes are set in the head, and cannot moue. *Hippocrates* calleth it πῆξιν and στάσιν, and it happeneth then when the muscles haue lost all their power of mouing, either by obstruction or Palsie possessing the sinew that bringeth motion.

The shaking eye.

The error of the ancient writers.

The fixed eye.

The diseases of the sinew of sight.

Obstruction.

Compression.

Palsey.

The falling of it together.

The breaking of it.

Gutta Serena.

The disease of the spirits.

Day blindnes.

Night blindnes.

The diseases of the nerue opticke, are obstruction, compression, the Palsie, the falling and bursting therof, a hard and melancholike humour, inflammation. Obstruction is suddainlie caused through a cold & grosse humour, in as much as the hollownes of the sinew is very smal: It is pressed together through some blowe: the Palsey taketh it, by reason of some thin and waterish humour, which doth mollifie and soften it. The falling thereof is called in Greeke, συμπτωσις, when the membranouse endes thereof fall together, not leauing any space for the marrowie substance which should be betwixt them: the bursting thereof commeth of a blow, after which the eye first starteth out, and after sinking in againe, pineth away. All these diseases of the sinew of sight, doe make one common disease, which the Greekes call ἀμάυρωσις, and the Arabians, *Gutta Serena*. This as *Ætius* doth very well define it, is a blindenes and vtter losse of the sight, without any fault or let appearing in the eye: this blindenes commeth by hindering of the course of the inward light.

The best learned Phisitions doe number the spirits among the parts of the eye, and assigne them their diseases, as μωσία, and νυκταλωπίασις. In the first, one cannot see but in the darke, as in the dawning of the day, and twylight, for at midday this disease will not let

let a man reade. In the other it falleth out cleane contrarie, for it cauſeth that a man cannot ſee, except he be in a very cleere light; ſome impute this vnto the ſpirits: thoſe which haue ſubtile and thin ſpirits cannot ſee in a great light, becauſe ſuch ſpirits are therby ſcattered: ſuch as haue groſſe ſpirits haue neede of a cleere and bright light to enlighten them.

Loe here in a ſhort brieſe, the principall diſeaſes of the eye, I meddle not with thoſe of the eye-lids, of the corners of the eye, or of the bordering parts, becauſe I feare me I haue wandred too farre out of my way alreadie, hauing purpoſed with my ſelfe onely to ſhew the excellencie of the ſight, and how men may learne the waie to preſerue the ſame: I wil therefore returne againe into my way.

Chap. XIII.

A generall and moſt exquiſite regiment for the preſeruation of the ſight, in which is handled very particularlie, whatſoeuer may hurt the eyes, as alſo whatſoeuer is profitable for them.

IT is now hightime to mixe ſome profitable thing with the pleaſant and delightſome: whoſoeuer they bee that feele ſome impairing of their ſight, or feare ſome future weakenes of the ſame, ſhall ſee in theſe two chapters whatſoeuer precious and excellent thing that is to be found in the gardens of the Greeke, Arabian, or Latine Phiſitions, for the preſeruation thereof, ſeeing I haue ſometimes delighted my ſelfe to crop and picke out thereof, whatſoeuer I could finde or ſee to be faire and for profit. But for as much as one of the principall cauſes of the weakenes of the ſight (yea I dare be bolde to ſay, that it is more common then any of the reſt) doth proceede of a ſuperfluous moiſture of the eye, and of the impurenes of the ſpirits: I will ordaine an exquiſite order for the ſame, which ſhall ſerue for a patterne and ſcantling the better, to aime at the curing of all the reſt of the diſeaſes of the eye. The art which teacheth to heale diſeaſes, called by one word

of

of the Grecians διαγνωστικὸν, is ordinarily performed by three instruments, as Diet, or the manner of liuing, Chirurgerie, and Medicine.

The maner of liuing is alwaies set in the forefront, and hath bin iudged of the ancient learned to bee the chiefe and most noble part, because it is most fauourable and familiar to nature, not disturbing her any maner of way, or molesting her in any respect, so, as medicines and manuall operations doe. This maner of liuing doth not consist onely in meate and drinke, as the common people imagine, but in the ordering of the sixe things which the Phisitions call not naturall; and these are the ayre, meate and drinke, sleepe and watching, labour and rest, emptines and fulnes, and the passions of the minde.

Good diet hath the first place in the curing of whatsoeuer diseases.

I will begin my order of diet at the ayre, in as much as no man can want it the least minute, and for that it hath a marueilous force to alter and change our bodies on the sudden: The direct passages thereof is through the nose to the braine, and through the mouth to the hart, by the pores of the skinne and mouing of the arteries it goeth throughout the whole bodie: it prouideth matter and nourishment for our spirits. This is the cause why that famous *Hippocrates* did note very well, that of the constitution of the aire doth wholly depend the good and ill disposition of our humours and spirits. In the ayre wee must looke vnto his first and second qualities: his first are heate, colde, moysture and drines, of which the two first are called actiue, and the two latter passiue: the second qualities are when the ayre is grosse, thicke, subtile, pure, darke, light: but let vs now make our profit of all this. It behoueth vs for the better preseruation of our sight to chuse an ayre which is temperate in his first qualities, as being neither too hot, too cold, too moyst or drie. It is not good to abide in the heate of the Sunne, neither in the beames of the Moone, or in the open aire. The Southerne and Northerne windes are hurtfull to the eyes. Reade that which *Hippocrates* writeth in his third section of Aphorismes. The South winde (saith he) maketh a troubled sight, hardnes of hearing, a heauie head, dull sences, and all the body lazie and lither, because it begetteth grosse spirits. The North winde is very sharpe, and therefore (as saith the same author) it stingeth and pricketh

The power of the ayre.

The qualities of the ayre.

What ayre is good for the sight.

The windes that are bad for the sight.

pricketh the eyes. The places that are low, wateriſh, moyſt and full of mariſhes, are altogether contrary to the welfare of the ſight. It is better a great deale to dwell in drie places, and ſuch as are ſomewhat riſing. If a man be forced to dwell in moyſt places, his helpe is to alter and rectifie the ayre with artificiall fires, made of the wood of Lawrel, Iuniper, Roſemary and Tamariske: or otherwiſe to very good purpoſe hee may make the perfume inuented of the Arabians, and vſe it in the chamber where hee keepeth moſt. Take of the leaues of Eyebright, Fennell, and Margerome of euery one an ounce, of Zyloaloe finely powdred a dramme, of Frankinſence three drammes: mingle them altogether, and perfume your chamber oftentimes therewith.

How to correct the ayre by art.

A perfume.

How the ayre muſt be affected in his ſecond qualities.

As concerning the ſecond qualities, a groſſe, thicke, and foggie ayre is contrary to the ſight, wee muſt chooſe ſuch a one as is pure and cleane, purged from all wateriſh, earthie, nitrous, ſulphurous, and other ſuch like mettallike vapours, eſpecially thoſe of quickſiluer: the duſt, fire, and ſmoke do wonderfull harme to the eye: and this is the reaſon why ſuch as haue a weake ſight ſhould neuer intermeddle with Alchimy, for ſo at once they ſhould conſume both their ſight and their purſe: the vapours ariſing out of ſtanding waters and from dead bodies are very noyſome. Neither yet muſt the ayre bee too lightſome: for an exceſsiue light doth ſcatter the ſpirits, and cauſeth the ſight oftentimes to be loſt. Wee reade that *Zenophanes* his ſouldiers hauing paſſed the ſnow, became all of them as it were blind: and *Dioniſius* the tyrant of Sicile, did after the ſame maner put out the eyes of all his priſoners: for hauing ſhut them vp in a very darke hole, cauſed them to bee led forth on the ſudden into a very bright light, ſo that they al thereby loſt their ſight.

What light is bad for the ſight.

What colours doe comfort the ſight.

Vnto the light wee will adioyne colours. All colours are not profitable for the ſight; the white colour ſcattereth the ſpirits, drawing them to it; the blacke maketh them too groſſe: there is not any but the greene, blew and violet, which doe much comfort it. And this hath nature taught vs in the framing of the eye: for ſhe hath died the grape-like coate with greene and blew, on that ſide which is next vnto the chriſtalline humour. The colour of the Saphire and Emerauld is very commodious for the ſight. If

you

you desire often to looke vpon these two colours mixed together: I wil shew you to attaine therunto very easily. Take of the flowers of Borage, & of the leaues of Burnet, and when you are disposed to drinke cast them into the glasse: and this will serue you for two purposes. The colour will comfort your eyes, and the hearbes by their propertie will represse the vaporousnes of the wine. And thus much let bee sayd of the ayre.

Of meates and drinkes.

The second poynt of ordering thy diet aright, consisteth in meate and drinke. It behoueth therefore to know what victuals are good, and what they be which can hurt the sight. A man must altogether refraine such victuals as are of grosse nourishment, as also slimie, vaporous, salt, windie, sweete, and sharpe meates, and such as make many excrements, there must also bee made a more spare supper then dinner.

Of bread.

The bread must be made of cleane wheate, well leauened and somewhat salted, wherein may bee put Fennell or Anise-seede: it must not bee eaten new, nor after it is aboue three daies old. Vnleauened bread doth hurt the sight extremely, especially if there be any darnell therein: for some are of opinion that the vse of darnell doth destroy the sight. I haue sometimes read in *Plautus* a pleasant treatise of a page, who not daring to call his companion blinkard or blind-beetle, mocked him with hauing eaten of darnell.

Of flesh.

All flesh that is easily disgested, and doth not abound with superfluous moysture, is most fit to bee eaten, as Chicken, Capon, Henne, Partridge, Feasant, Pigeon, Larkes, Turtles, and other mountaine birds, which may bee stuffed with sage or mountaine hissope. There are certaine sorts of flesh which haue a certaine speciall propertie for to strengthen and cleere the sight, as the flesh of the Pye, the Swallow, the Goose, of Vipers well prepared, of the Wolfe, of the he-gote, and other rauenous birds. The Arabian Phisitions haue obserued, that the eyes of liuing creatures, doe (I know not by what propertie or sympathie) comfort the sight. They doe often vse the flesh of Swallowes and Pyes dried in an ouen to pepper their meates withall. They forbid vs the vse of grosse flesh, as of Porke, Hare and Hart.

Of fish.

Fish (if we credit *Auicen*) is enemie vnto the eyes: but I thinke hee vnderstandeth it of such as liue in standing waters, which

haue a slimie substance and flesh, or such as bee salted: for such as haue a fast flesh, as Troutes, Rochets, and such like, are not against the eyes. New and soft egges with a little sugar and Cinamon, doe marueilously cleere the sight: but if they be fried with butter, they hurt exceedingly.

All meates made of paste, all baked, and milke meates do hurt the eyes.

As concerning salt meates, spices and sauces, all of them are not forbidden: wee vse to make artificiall salts, which serue marueilously to cleere the sight: and therewithall must ordinarily meates bee salted. The salt of treacle is most excellent, whereto may be added some Nutmeg, Mace, Cloues and Fennell seede. There is likewise made salt of Eyebright, after this maner: Take of common salt one ounce, of Eyebright two drammes, of Cinamom and Mace the waight of halfe a crowne, mixe them altogether, and vse it as salt vnto your meate. There be some which adde vnto these salts, the powder of the flesh of a Pye dried in the ouen.

Of artificiall salts.

Strong spices, as Ginger, Pepper, and mustard do hurt the eyes: it is meete to rest contented with Nutmegs, Cloues, Cinamom and a little Saffron.

Spices.

All pulse is mightily against the sight, except it bee Lupines, which strengthen and helpe them by a certaine propertie.

As for hearbes that are good for the eyes, these are commended; Fennell, Sage, Margerome, Rosemary, Betonie, Mints, Mountaine time, Asparagus, Burnet, Succorie, and Parselie: On the contrary side these are forbidden; Lettise, Cresses, Dill, Basill, Purselane, Leekes, Coleworts, Garlike, Onions, and all bulbouse rootes, as also Watercheſtnuts, and Toadstooles. The Arabians, which were more addicted to dishmeate then the Greekes, doe commend Turneps: but with all these it is very certaine that wee must mixe Fennell or Aniseede, because they be very windie.

Hearbes.

Raw fruites, and such as abound with much moysture, doe hurt the sight: before meate presently, one may vse stewed Prunes, and presently after meate a Peare or Quince well preserued, to close the mouth of the stomacke, and to hinder vapours from ascending vp into the head. It will not be amisse after meate to take a little

Fruites.

little Fennell or Anniſe ſeede comfits, a morſell of *Cidoniatum*, or of preſerued Mirobalanes or Nutmegs. Figges and Raiſins are not forbidden, but nuts, Cheſnuts, and Oliues that are very ripe, are well forbidden. And thus much for meates.

As for drinke, we are to obſerue two things therein, the quantitie and the qualitie. *Archigenes* the great Phiſition, ſpeaking of the quantitie ſaith, that in all diſeaſes of the eyes, it is very hurtfull to drinke much. *Ariſtotle* in his Problemes ſpeaking of the qualitie ſaith, that they which drinke water haue their ſight more ſubtile: notwithſtanding *Auicen* and *Rhaſes* doe condemne the vſe of water, and I am verely perſwaded that they doe not diſpleaſe the ſect of good fellowſhip, which had rather looſe their eyes then their wine. To graunt the ſame which they affirme, I holde it needfull to alay the wine well with water, and to make choiſe of ſome ſmall wine, ſo that it be not ſharpe or vaporouſe: ſweete and new wines are very fuming, thicke wines ſtay too long in the ſtomacke, and ſend too great a quantitie of vapours vnto the braine. We vſe to make an artificiall wine of Eyebright, which is very ſingular for the preſeruation of the ſight. *Arnaldus de Villanoua*, a famous Phiſition doth confidently affirme, that he cured an olde man almoſt quite blinde, by the onely vſe of wine of eyebright. Alſo it will doe well to caſt a bunch of Eyebright in the wine which one drinketh ordinarilie, or otherwiſe, as I haue alreadie ſaid, ſome Burnet with the flowers of Borage; for beſides that they comfort the ſight with their colour, they will helpe to purge the ſpirits, and to repreſſe vapours. The hearbes are common enough, and to be come by at all ſeaſons. Such as will not vſe wine, ſhal drinke a ſimple honied water, or elſe compound one in maner as followeth. Take of ceſterne or fountaine water fifteene pounds, of good honie one pound, mingle them both together in a pot, adding thereto ſome Fennell, Eyebright, and Mace, made vp in a little bagge, the waight of a French crowne, boyle all together, vnto the conſumption of the third part, euermore looking well to the taking off of the ſcum of the honey.

Drinke.
What quantitie is to be vſed.
What qualitie it muſt be of.
Artificiall wines.
Hydromell.

In watching and ſleeping, it behoueth to keepe a meane: to ſleepe very long hurteth the ſight, and to ſleepe at noones maketh a blowne paire of cheekes, troubleth the ſight, and maketh all the

Of watching and ſleeping.

body

body lither and lazie: it is best to sleepe vpon the side, hauing the head raised high enough. Immoderate watching doe spend the spirits, coole the braine, and hurt the sight infinitely.

It is good to goe to bed three or foure houres after supper, and to rise very earlie, to walke vp and downe the chamber, to hake and spet, to cleanse the eares, to emptie the bodie of his ordinarie excrements, and after that to combe the head, and that alwaies against the hayre, keeping it very cleane, and not to accustome to washe the face and eyes with colde water, as is ordinarilie accustomed; for colde is an enemie to the eyes and braine: it were better to vse in steede thereof, a little white wine warme, with some Fenell and Eyebright water.

Of the exercising of the whole bodie.

The moderate exercise of the whole bodie, is good in a morning, neither in deede can any man liue in health (as *Hippocrates* noteth) if hee labour not, to waste the superfluities of the third digestion.

Particular exercises also, as the rubbing of the thighes and legs, will be of good vse, to diuert and turne away the vapours which rise vp to the eyes.

The particular exercises of the eyes.

The eyes haue their particular exercise: to moue them very suddainely and circularlie, doth weaken them: as also to keepe them fixed a long time in one place, and as it were immoueable, doth yet wearie them more, for that in this pawsing motion, all the fibres of the sixe muscles are equallie stretched, as we see in birdes which houer in the ayre, not stirring out of their place. It is better therefore to keepe them in a moderate motion, for that the muscles performing their actions successiuely, doe comfort and relieue one another. It is not good to reade much, especially after meate, nor yet to trouble himselfe with too small a letter, or any other curious and choise peece of worke, because that both the faculties or power, and instrument are put to great paines, being occupied about these little things. It is not good to beholde things that moue swiftlie, nor yet such as turne round.

Of the passions of the minde.

All passions of the minde doe much hurt the sight, but aboue the rest, melancholike dumpes and much weeping.

The bellie must be kept soluble.

The belly must be soluble alwaies in all the diseases of the eyes: which *Hippocrates* obserued by the example of them, which haue

blood-

blood-ſhotten eyes, as alſo ſuch as are vapour-eyed. But and if it be coſtiue, it muſt be helped by all meanes that are gentle and eaſie, as laxatiue brothes, Prunes and Raiſins laxatiue, lenitiue cliſters and ſuch others. Some cauſe damaske Prunes to be ſtewed in a ſyrope, with Sene, Agaricke, and Sugar, whereof foure or fiue are to be taken in the morning before breakefaſt or dinner.

CHAP. XIIII.

Select and choiſe remedies for the preſeruation of the ſight, and the order that is to be kept in the application of them.

SEeing that the weakenes of ſight commeth ordinarilie, either of the diſtemperature of the braine, or of the euill diſpoſition of the eye: the rationall and methodicall Phiſition ought alwaies to haue regard vnto theſe two poynts. The braine if it bee too moiſt, muſt be dried; and the eye if it be weake, muſt be ſtrengthened. *Plato* in a dialogue of his, doth counſaile vs, neuer to attempt the drying or ſtrengthening of the eye by outward remedies, without hauing firſt purged the head. We will therefore take our beginning at the purging of the head; and for as much as it is hard to purge the ſame well, if the whole bodie (which doth ordinarilie ſend great ſtoare of excrements thither) be not very cleane, it will be requiſite to chuſe a remedie, which in purging the braine, may gentlie emptie the whole bodie alſo, and therewithall ſomewhat reſpect the eye. That forme which is proper to pills, is moſt fit for this purpoſe. The Arabians commend the pilles, called Elephangine, the pilles of Agaricke, and *pillulæ lucis maiores* and *minores*: Wee may prepare a maſſe of this mixture.

The purging of the whole bodie and of the braine.

Take of Aloes well waſhed in Fennel and Eyebright water, three drams, of good Agaricke one dram and a halfe, of Rubarbe, a dramme, of the fleſh of Citrine mirobalanes, chafed in the oyle of ſweete Almonds, foure ſcruples; of Sene of the Eaſt well powdred a dramme; of Maſticke, Ginger, and Cinnamome, of each

A deſcription of ſuch pils as are to be vſed.

halfe a scruple, of Trocisks alandhall fiue or sixe graines to acuate it withall, infuse all these in the iuyce of Fenel, and sirope of Stechados, and make vp a masse, thereof take a dramme twise euery moneth, either at euening or morning. Or else,

Take of the powder of Hiera two drammes, of good Agaricke foure scruples, of Anise seede, Fennel seede, and Seseli seede, of each halfe a scruple, of Maces, Cinnamome, and Mirrhe, of each fiue graines, with honie of Roses, Rosemarie flowers and the water of Fennel; make these vp in a masse, and take thereof a dram euery weeke: they which cannot swallow pils, shall vse this magistrall sirop.

A magistrall sirope.

Take of the roote of Fennel, Acorus, and Elecampane, of euery one an ounce, of the leaues of Eyebright, Betonie, Fumitorie, Mercurie, Succorie, Germander, and Veruaine, of euery one a handfull, a dozen of damaske Raisins, and as many Prunes, of Anise and Fennel seede two drammes, of the flowers of Sage, *Stecados*, Rosemarie, and eyebright, of euery one a pugil: boyle them all in faire water, and when you haue strained it, adde thereto the expression of three ounces of Sene which haue bin infused a good while in the foresaid decoction warme: as also the expression of an ounce of Agaricke, with a dramme of cloues and as much Cinnamome: boyle them all together againe with a sufficient quantitie of Sugar vntil it haue the consistence of a sirope that is well boyled, aromatize it with halfe a dramme of Nutmegs and as much of the powder of *Diarrhodon*. If in the ende and shutting vp of this sirope there be put thereto the infusion of the weight of halfe an ounce of Rubarbe strongly pressed out, it cannot chuse but be a great deale better. Hereof one shall take euerie fiue daies the quantitie of two ounces, more or lesse according to the working, and that in some broth or decoction appropriate vnto the head and eyes. The often vse of Clisters is requisite in all the diseases of the eyes, eares, and head.

Clisters.

Decoctions prouoking sweate.

If the braine should be very moist, and that the temperature of the bodie doe not withstand, the vse of the roote China, or of Zarza, Perilla, putting thereto of the leaues of Eyebright, and of the seede of Fennell, would be of very good effect. For together with the consuming of the superfluous moisture of the whole

body,

body, it would strengthen the braine and the eye: and yet I beleeue that the vse of Sassafras hauing the smell of Anise-seede, would be a great deale more fit.

The bodie being purged by these vniuersall remedies, the braine may afterward with greater securitie be euacuated by the mouth and nostrels, which are the ordinarie draines that nature hath ordayned for the cleansing thereof; I should better allow of Masticatories then Irrhines, because the nose is seated very neere vnto the eyes, and communicateth greatly therewith, by the hole which goeth through them to the great corner of the eye, in such sort as that there being any forcible attracting of any humour through the nose, it might be the occasion of drawing the same vnto the eye, which is the part that is diseased. This is also the appoyntment, of that great Phisition *Hippocrates*, in the second section of his sixt booke of Epidemicall diseases. It is meete and necessarie (saith he) that humours falling vpon the eyes, should be diuerted vnto the palate and mouth. It were better therefore to chawe and masticate something as damaske reasons, sprinkeled with a drop or two of the essence of Fennell, or else to rub the palate with the said essence alone, whose vapour ascending vp to the braine and eye, will strengthen them, and not suffer them to attract any vicious humours. Masticatories.

Fricasies and rubbings of the head, made against the hayre with bags, perfumes, and artificiall coifes, such as we will prescribe in the chapter of rheume, will euacuate the braine by insensible transpiration. Rubbing of the head.

Hippocrates in the diseases of the eyes, applieth cupping glasses vnto the necke, and hinder part of the head, to the shoulders and thighes. Cupping-glasses.

We must not forget among the particular euacuations of the head, to speake of cauteries: it is very true in deede that Phisitions doe not accord of the place where they are to bee applied. Some there be that applie them vpon the top of the head: but I am iealous of that place, for that I haue seene fearefull accidents to happen by reason of *Pericranium*, when the caustick hath searched too deepe: and I could like it better, that it should be applied behinde: for such reuulsion would worke more effectually, and fur- Caustick.

ther, it is very certaine that the rising of all the sinewes lyeth behinde. This is a worthie thing to bee noted, and that which but a few men haue marked, I haue oftentimes shewed the same both in my publique and priuate dissections. There is a certaine Italian Phisition, which boasteth himselfe to haue been the first founder and finder of this matter: but I haue long since read the same obserued of *Hippocrates* in his booke of the nature of bones. This cauterie is not to be applied vpon that part of the head called *Occiput*, because that thence there would issue nothing, but ouer against the space which is betwixt the first and second Vertebre: being the very place, where Setons also are ordinarily set. In old and inueterate diseases of the eyes, I could approue of that deriuation made by cauterie behinde the eares, because the branches of the veines and arteries called *Carotides* and *Iugulares*, (from which the eye hath all his outward store of veines and arteries) do passe along that way. And these are the most proper & fit meanes (in my iudgement) to euacuate as well sensibly as insensibly the whole bodie, the head and the eyes. I haue not spoken of blood-letting, because there is not any place for it here: and it is so farre off from profiting them which are weake sighted, that it weakeneth them more, taking away blood, which is the storehouse of nature, and that iuyce, whereby it is most cherished. And yet in great paines, inflammations and sudden fluxes of humours, it may doe good.

A worthie obseruation of the originall of the sinewes.

The fittest place for the application of cauteries.

Blood-letting.

After euacuation, we must thinke how to strengthen the braine and the eye, to which vse and purpose there are opiates, lozenges and powders, which haue propertie to cleere and strengthen the sight, as Treacle and Mithridate are greatly commended and commanded, for such as haue their braine and eyes very rheumatike and moyst.

Medicines to strengthen and sharpen the sight.

The conserues also of the flowers of Betonie, Sage, Rosemary and Eyebright, there may bee framed a composition or Opiate in maner as followeth. Take of the conserues of the flowers of Eyebright, Betonie, and Rosemary, of each an ounce, of olde Treacle three drammes, of conserue of Roses halfe an ounce, of the powder of *Diarrhodon* a dramme and a halfe, of Maces two scruples: make an Opiate hereof with the syrope of Citrons, and take thereof

of oftentimes in the morning when you rise.

One may also make a confection, with two ounces of rosed Sugar, and as much of the sugar of Borage flowers, with two drams of the powder of *Diarrhodon*, and halfe a dram of the powder of Eyebright, Betonie and Fennell, which may be taken in the morning. A confection.

At night going to bed, there are certaine powders to bee vsed and taken inward, that so the vertues thereof may bee conueied, together with the vapours of the meate. Take of Eyebright three drammes, of Fennell two drammes, of Anise and of Seseli a dram, of Mace two scruples, and of Cinamome and Cloues as much, of the seede of Rew and Germander halfe a dramme, of the seede of Pionie a dram, of rosed Sugar so much as needeth: make them into very fine powder, and take thereof a spoonefull at your going to bed. A powder to be taken at night.

After meate also one may vse digestiue powders, with Coriander, Fennell, red Roses, Corall, Pearle, Eyebright, Mace, and rosed Sugar: or els vse this condite. Take of Fennell and Coriander Comfits, of each halfe an ounce, of the rindes of Citrons and Mirobalanes condited, of each two drammes, of dried Eyebright one dram, of Mace halfe a dram, of rosed Sugar so much as needeth: make thereof a condite, whereof take a spoonefull after euery meale. A powder helping concoction. A condite.

The Arabians doe highly commend this powder to bee taken after meate. Take of the Trociskes of Vipers a dram, of the powder of Eyebright foure scruples, of sweete Fennell two scruples, of the stones which are found in the eyes of a Pike, one scruple, of rosed Sugar foure ounces: and make thereof a powder.

And hitherto concerning inward medicines, which serue for the cleering and strengthening of the sight: and now wee are to lay out the outward, which are waters, colliries, and oyntments. There are an infinite number of receipts, but I will put downe three or foure of the most exquisite and best approued. As for to wash the eyes in the morning vse these distilled waters. Take of the crops of Fennell, Rew, Eyebright, Veruaine, Tormentil, Betonie, wilde Roses, of male Pimpernell, Burnet, Clarie, Agrimonie, Cheruile, mountaine Hissope, and mountaine Siler, of euery one Outward remedies. A distilled water.

two good handfuls: shred all these hearbes very small, and infuse them first in white wine, and afterward in the vrine of a young boy that is in perfect health, and thirdly in womans milke: and lastly in good honey: after which distill the whole, and keepe this water carefully, putting euery morning a drop therof into the eye.

Another water.

You may also euery morning wash your eyes with wine, wherein hath been boyled Fennell, Eyebright, and a little of Chebule Mirobalanes. Some make a water of the iuyces of male Pimpernell, Germander, Clarie and Rew: putting thereto afterward of Cloues, Mace, and Nutmeg two or three drams, and haue infused them all together in white wine, to distill them with good honey. I finde

A very good medicine for the eyes.

the remedie which I now set downe, to be very good for the preseruation and strength of the eyes. Take of the water of Eyebright and Roses well distilled, foure ounces: afterward prouide two or three small bags in which is contained a dram and a halfe of Tutia well prepared, and of good Aloes a scruple: hang these bagges in the waters aforesaid, and wash your eyes therewith euery night.

An excellent water of bread

The water of bread (so called) is very excellent. You must make paste with flower grossely sifted, and the powder of Rew, Fennel and Clarie, which they call great Celondine: of this paste you must make a loafe and bake in the ouen, which so soone as it is baked must be clouen in two, and put betwixt two siluer plates, or peauter dishes, made very close in such sort as that there may nothing breath out: and so you shall thence gather a water, which must bee kept for the eyes. Some also doe much commend the extraction of Fennegreek with Honey. The water of blew flowers called Blew-bottles and growing in the corne, distilled, is excellent good for the preseruation of the sight. Some also take the stalke of Fennell a little aboue the roote, and cutting it, fill it with the powder of Sugar candie: whereupon commeth forth a licour which is singular for the eyes. I cannot but highly praise this wa-

A water.

ter, which I am about to describe. Take of White wine a pound and a halfe, and as much of good Rosewater, of Tutia well prepared an ounce, of the rinde of Nutmeg called Mace, halfan ounce: put all these together in a glasse violl close stopped, and set it in the heate of the Sunne twenty daies, stirring it euery day till it become very cleere.

There

There is a ſinguler oyntment for the preſeruation of the eyes. Take of Hogs greaſe very new, two ounces: ſteepe it in Roſewater ſixe houres: after waſh it againe twelue ſeuerall times in the beſt White wine that may bee got, by the ſpace of fiue or ſixe houres more, adde afterward vnto this greaſe of Tutia well prepared and finely powdred one ounce, of the ſtone *Hematites* well waſhed a ſcruple, of Aloes well waſhed and made into powder twelue graines, of powder of Pearle three graines: mixe all together with a little of the water of Fennell, and make them vp in an oyntment, whereof ye may put a very little in both the corners of your eyes. There is great ſtore euery where of other outward remedies which may ſerue for the eyes, as Colliries, or Eyeſalues and powders, which are blowne into the eyes: but I finde them not ſo fit for the purpoſe as waters. An oyntment for the eyes.

The Arabians vſe waſhing of the head, the better to preſerue the ſight: but it is not very good in the weakenes of the eyes to trouble the braine: but if there be any ſuch thing vſed, it may bee done in this ſort. Take the lye that is made of the Vine aſhes, of the leaues of Stechados, Betonie, Eyebright, Celandine and Camomill, of each a handfull, of Agarick and Chebule Mirobalanes tied in a cloute, of each two drammes: boyle all together till the fourth part be conſumed, and therewith waſh your head. Or elſe take dried Eyebright, and make it into aſhes: then adde thereto the water of Eyebright, and make thereof a lye. Waſhing of the head.

Loe theſe be the meanes whereby we ſhall be able to preſerue the ſight, eſpecially if the diminution thereof come by ſome great moyſture of the braine and eyes, as is that of my Ladies the Dutcheſſe of *Uzez*, to whom this whole diſcourſe is particularly dedicated. I do not ſet downe the remedies, which are proper to the ſeuerall diſeaſes of the eyes, for ſo I ſhould ſpend too much time. It was my purpoſe onely to prepare this generall regiment, which might ſerue as a patterne for the curing of all the reſt. *Monſieur Guillemeau* the kings Surgeon, hath put forth a very learned treatiſe, wherein are to bee found, the moſt exquiſite remedies ſet downe and vſed by the old and new writers. Vnto his booke I referre the reader, ſeeing it is extant in our common language.

An end of the firſt diſcourſe.

THE

THE SECOND DISCOVRSE, WHEREIN ARE HANDLED THE diseases of melancholie, and the meanes to cure them.

CHAP. I.

That man is a diuine and politike creature, endued with three seuerall noble powers, as Imagination, Reason and Memorie.

ABdalas the Sarrasin being importunatelie pressed, and as it were forced to speake and tell, what it was that hee found to bee most wonderfull in all the world: answered at last with great commendation, that man alone did surpasse all other wonder whatsoeuer. An answere in trueth beseeming a great Philosopher, rather then a rude and vnlettered man. For man hauing the image of God engrauen in his soule, and representing in his body the modell of the whole world, can in a moment transforme himselfe into euery thing like a Proteus, or receiue at an instant the stampe of a thousand colours like to the Chamelion. *Phauorine* acknowledged nothing to be great here on earth but onely man. The wise men of Egypt haue vouchsafed him such honour, as to call him a mortall God. Thrice renowmed *Mercurie* calleth him the liuing creature full of diuine parts, the messenger of the Gods, the Lord of the things below, and fellow companion with the Spirits aboue: *Pithagoras*, the measure of all things: *Synesius*, the Horizon of things hauing and not hauing bodies: *Zoroaster* in a certaine kinde of rauishment proclamed him, the mightie worke

The praise of mankinde.

and

and wonder of nature: *Plato*, the marueile of marueiles: *Aristotle* the politike liuing creature, furnished with reason and counsaile, which is all, as possessing all things by power, though not really and in very deede (as *Empedocles* would haue it to be) but by the comprehending and conceiuing of the formes and seuerall sorts of things: *Plinie* the ape or puppie of nature, the counterfeit of the whole world, the abridgement of the great world. Amongst the Diuines, there are some which haue called him, euery maner of creature, because he hath intercourse with euery maner of creature; he hath a being, as haue the stones; life, as haue the plants; and sence or feeling as the beasts; and vnderstanding, as haue the Angels. Othersome haue honoured him, giuing him the title of vniuersall gouernour, as hauing all things vnder his empire and iurisdiction, as being he to whom euery thing yeeldeth obedience, and for whose sake the whole world was created. In briefe, this is the chiefe and principall of Gods worke, and the most noble of all other creatures. But this his excellencie, whereby he is more glorious then all the rest, is not in respect of his bodie, although the shape thereof bee more exquisite, better tempered, and of more comely proportion then any other thing in the world, seruing as *Polycletus* his rule for the fashioning of other things, and being as a platforme, whereby the master builders may frame and contriue their buildings. This noblenes (I say) commeth not of the bodie, which consisteth of matter and is corruptible: no, the extract thereof, or that which is indeede excellent therein, is further fetcht: It is the soule alone whereby he is so renowmed, being a forme altogether celestiall and diuine, not taking his originall from the effectuall working of any matter, as that of plants and beasts doth. It is created of God, and commeth downe from heauen to gouerne the bodie, so soone as the members thereof are made: the effects thereof doe sufficiently proue vnto vs, the worthines of the same. For besides the vegetatiue and sensitiue faculties, it inioyeth three speciall powers and faculties, which extol and aduance man, aboue all other liuing creatures: and these three are the Imagination, Reason, and Memorie. Of these, reason is the principall and chiefe: the other two, because they are her ordinary handmaides, (the one to report; the other, to register

From whence the excellencie of man springeth.

The excellencie of mankinde.

The three excellent powers of the soule.

and write downe, doe enioy the priuiledges of renowmed excellencie, doe lodge within her royall pallace, and that very neere her owne person, the one in her vtter, and the other in her inner chamber. The imaginatiue facultie doth represent and set before the intellectuall, all the obiects which she hath receiued from the common sence, making report of whatsoeuer is discouered of the spies abroad: vpon which reports the intellectuall or vnderstanding part of the minde, frameth her conclusions, which are very often false, the imagination making vntrue reports. For as the most prudent and carefull Captaines vndertake very oft the enterprises which proue foolish and fond, and that because of false aduertisement: euen so reason doth often make but foolish discourses, hauing been misse-informed by a fayned fantasie.

The imagination.

Some Greeke Philosophers there be, which would debarre the imagination of her reputed renowne and excellencie, straining themselues to make her as base as the other actions of the sences: and I haue in place where, read two seuerall opinions to that end: the first is of such as thinke that the imagination and common sence is all one: the other is of them, which affirme that brute beasts haue an imagination as well as men; and that either of these two being true, there is not any cause why it should be inthronized among the worthies. But I will cause it to appeare manifest vnto euery one, how fondly they haue suffered themselues to be abused.

The opinions of the Grecians against the excellencie of imagination.

All such as haue applied themselues to play the Philosophers after the most commendable sort and maner, doe holde it for granted and out of all question: that the imagination is a certaine thing surpassing the common or inward sence, which iudgeth of all outward obiects, and vnto which as vnto their center, all the formes of the other sences doe betake themselues: for the common sence, receiueth at one and the same instant with the outward sences the formes of things, and that (if I may be allowed to vse schoole tearmes) with the reall power of the obiect, but the imagination receiueth and reteyneth them without any presence of the obiect. The imagination compoundeth and ioyneth together the formes of things, as of Golde and a mountaine, it maketh a golden mountaine, which the common sence cannot doe:

The error of the Philosophers.

The difference betwixt the imagination and the common sence.

for

for the inward sence cannot take holde of any thing, saue that which the outward sences perceiue, but the imagination proceedeth further: for the sillie Sheepe hauing spied the Wolfe, getteth himselfe by and by out of his way, as from his enemie; this enimitie is not knowne by the sence, for it is no obiect of the sences, but it is the meere worke of imagination to know the same. This then is a power farre differing from the common sence, which in deede is found truely to be in beasts, but the other cannot possiblie be found in them in that degree of excellencie that it is in men. I would that euery one should see the difference betwixt that imagination which is in men, and that which is in beasts. The imagination which is in beasts, serueth them onely to follow the motions and passions of their appetite, and is not imployed, but onely about action, that is to say, either in following that which may doe them good, or in auoiding of that which may annoy them. The imagination of man serueth both for action and contemplation. The imagination of beasts cannot counterfeite any thing further, then as it is present and before their eyes; but man hath the libertie to imagine what he listeth, and although there be no present obiect, yet it taketh out of the treasurie, which is the memorie whatsoeuer may content it. The beasts haue their imagination occupied onely when they are exercised, and not when they are out of worke and labour; but man hath the vse of imagination at all times, and at euery houre. The beast hath no sooner imagined, but he moueth himselfe by and by, and goeth after that which his appetite stirreth him vp vnto; but man followeth not alwaies the motions of his appetite, he hath reason to bridle the same with all, as when it findeth out any error therein. The imagination of beasts cannot frame to it selfe any mountaines of golde, neither yet can it faine the things that are darke and subtile, or flying asses, as the imagination of man can. Finally, the imagination of man seemeth to enter into some maner of discourse with the vnderstanding. For hauing beheld a painted Lyon, it perceiueth that it is not a thing to be feared, and at the same time, ioyning it selfe vnto reason, doth confirme and make bolde. Beholde now, how the imagination of man doth magnifie it selfe aboue that of beasts, and for what cause I haue set it in ranke a-

The difference betwixt the imagination of men, and that of beasts.

The first.

The second.

The third.

The fourth.

The fift.

The sixt.

The effects of imagination.

amongst the excellenteſt and nobleſt powers of the minde. The Arabians haue ſo highly commended it, that they haue verely beleeued, that the minde by vertue of the imagination could worke miracles, pearce the heauens, commaunde the elements, lay plaine the huge mountaines, and make mountaines of the plaine ground: and to be ſhort, that vnto the iuriſdiction thereof were ſubiect, all maner of materiall formes, and they called all the three powers of the minde, moſt excellent and renowmed minds, and therefore that which is called imagination, is the firſt facultie or power of the minde.

Of the vnderſtanding, the ſecond power of the minde.

Of vnderſtanding, called paſſible or ſuffering.

Of actiue vnderſtanding.

Reaſon.

The vnderſtanding followeth next in order, and awaketh at the knocke of imagination, it maketh things ſenſible, vniuerſall, diſcourſeth, gathereth concluſions, reaſoneth from the effects to the cauſes, and from the beginnings, euen to the middeſt, and ſo to the ends and iſſues of things. The Philoſophers diſtinguiſh this vnderſtanding power, into a ſuffering and doing power: the ſuffering, is that which receiueth the formes of things, pure and free from all matter, and is as it were the ſubiect of all maner of formes: the doing power is as it were a light, which maketh cleere and perfect the ſuffering: in ſuch maner, as that the one doth as it were ſerue in ſtead of the matter, and the other of the forme, and both ioyned together, doe perfite and make vp reaſon the ſoueraigne and predominant power of the minde, proper vnto man, which can doe much without the bodie, and vnto which the bodie very oft is a let and hindrance, being that alone which is without matter, being alſo not ſubiect to paſſions, immortall, differing from the ſences, and all other corporall actions, becauſe the ſences are loſt by the violence of ſome great obiect, as the hearing, by a ſtrong and forcible ſound; the taſte, by taſting ſome extreame fauour; the ſight by an exceſſiue whitenes; witnes hereof is the Sicilian tyrant, who by cunning practiſe put out the eyes of all his priſoners: but the vnderſtanding, the more excellent and ſurpaſſing that the obiect is, the more it ſheweth forth his owne perfection and noblenes, the contemplation of high and diuine things doth rauiſh it, yea herein it findeth greateſt contentation, herein it placeth his chiefeſt felicitie. This is that onely power which groweth more and more, when the bodie declineth, which

How reaſon differeth from the ſences.

then

then is in his chiefeſt ſtrength, when the bodie groweth faint and feeble: which becommeth ſtrong and luſtie, when all the ſences grow weake and feeble, which whirleth through the ayre, and walketh ouer the wide world, when the bodie is immoueable, which cauſeth vs when we are in ſleepe, oftentimes to ſee ſome glaunces of his diuine nature, in foretelling things to come, and, if it bee not ouerwhelmed with the Sea of vapours, riſing of exceſſiue cramming in of bellie cheere, it lifteth it ſelfe aboue the world, and euen aboue his owne nature, and beholdeth the glorie of the Angels and myſteries of heauen. Finally, reaſon hauing thus ſwiftlie conueyed her ſelfe to take the view of whatſoeuer is, and hauing diſcourſed and conceiued a million of goodly and pleaſant formes, being vnable any longer to retaine them, committeth them to the cuſtodie of memorie, which is her faithfull ſecretarie, and wherein, as in a place of greateſt truſtines to keepe the ſame, the moſt precious treaſures of the ſoule are placed. This is that rich treaſurie, which incloſeth within one only inner roome all the ſciences, and what elſe ſoeuer hath paſſed ſince the creation of the world, which lodgeth euery thing in his ſeuerall place, not ſhufling them vp diſorderly together, which obſerueth time, circumſtances and order, and which is (as *Plato* tearmeth it) a ceſterne to containe the running ſtreames of the vnderſtanding: this facultie is called remembrance, and is proper vnto man alone: for beaſtes haue likewiſe a certaine kinde of memorie, but they cannot call to minde the time, order and circumſtances, this cannot be accompliſhed without a Syllogiſme. See here the mind of man attended by theſe three famous faculties, the imagination, reaſon, and memorie, all which three are lodged in one ſelfeſame palace, and within this round towre, which we call the head: but whether this fall out to be in all the braine equally, and alike, or that euery one of them ſhould haue his ſeuerall chamber, it is not fully reſolued vpon. I know very well that there is a great quarell betwixt the Greeke and Arabian Phiſitions, about the lodgings of theſe three princeſſes, & that no man hitherto hath bin able to reconcile them. The Greekes would lodge them in euerie part of the braine; the Arabians quarter out euery of them by it ſelfe. The Greekes maintaine that in all places where the reaſon is, that

Memorie.

The diuerſe opinions concerning the ſeates of theſe powers.

The Grecians would haue them diffuſed through the ſubſtance of the whole braine.

there the imagination and memorie doe accompanie it, and that al the three are as much before as behind: finally, that they be al of them in all and euery part of the braine. They alleage for one principall reason on their side, that euery similar action is wholie and intirely in euery part of his subiect, as for example, nourishment is equallie and alike in all the bone, and whatsoeuer part of the bone it be, there is to be found continuallie these foure faculties, that is, the attractiue, retentiue, digestiue and expulsiue. On the contrary the Arabians will haue, that euery one of these faculties enioy his proper seate: and they haue very goodly reasons for that which they holde. First, it is very certaine, that there are diuerse pettie chambers in the braine, which the Anatomists call Ventricles, these chambers are not for nothing, yea and there is no man that can thinke, that they were made for any other vse, then to be lodgings for these three faculties: and that, as though the imagination should be lodged in the two first, Reason in the middlemost, and Memorie in the hindermost: and the appearance of the truth of this thing is very great: for the imagination receiueth all the obiects of the sences, and therefore ought to be placed very neere vnto the sences: but so the case standeth, as that all the sences are in the forepart of the head: the imagination presenteth all these obiects vnto the reason, which maketh them voide of matter and vniuersall, so that of necessitie it must follow as second. The reason hauing after some time serued and satisfied it selfe of these pleasant formes, committeth them to the custodie of memorie: whereupon it followeth of necessitie, that it should be placed behinde, and as it were in her inner chamber. Furthermore, imagination being effected by receiuing in of formes, must haue his seat in the softest part of the braine, because the prints of pictures are most easilie set in a soft bodie: Memorie which keepeth and retayneth the formes, craueth a more hard part, for else the picture would be defaced by and by after that it should be printed: Reason, as the greatest of renowne ought to be placed in such a part of the braine, as is most temperate. But there is no doubt, but the forepart of the braine is the softest, and the hinder part the hardest, and the middlemost the most temperate: so then we must beleeue that imagination is before, and memorie behinde.

The contrarie opinion of the Arabians.

The first reason.

The second.

Philoso-

Philosophers that haue written of Phisiognomie, say that such as haue the hinder part of the head hanging out much, haue a good memorie; that such as haue large and high foreheads, and therewithall as it were bossed, are of pleasant imagination: and that such as in whom these two eminences are wanting, are blockish, without imagination, and without memorie. If we will (saith *Aristotle* in his Problemes) enter into any serious and deepe conceit, we knit the browes and draw them vp: if we would call to mind and remember any thing, wee hang downe the head, and rub the hinder part, which sheweth very well that the imagination lieth before, and the memorie behinde. Men haue very often marked, that if the hinder part of the head be hurt, the memorie is lost at the very same time. I will adde further for the more strengthning of the side of the Arabians, that the fashion and widenes of the ventricles of the braine, doe serue to poynt out with the finger, the places of these three faculties. The fourth ventricle is somewhat sharpe poynted, to the end that formes may be the better vnited, and that the reflexe thereof may the more fully cast it selfe vpon the third, wherein reason lodgeth: the two first are the widest, for that they receiue the first obiects which are not as yet refined: that in the middest was fittest for reason, because it might receiue the images or formes of the two first, and hauing forgotten them, might seeke them out, as it were in her most close and secret place of custodie, contriued for that end behinde. Finally, that which hath made the Arabians to stand so stiffelie in their opinion, and to maintaine that these three faculties, haue euery one their seuerall lodging, is because they haue oftentimes obserued, that one of these three may be hurt, and not the other; the imagination is very oft corrupted, the reason standing sound and intier: and contrariewise, how many franticke and melancholike men be there, which discourse very excellently, notwithstanding their fooliish and vaine imaginations. *Galen* writeth two histories of two franticke men, the one of which had his imagination troubled, and his reason sound, the other his reason troubled, and his imagination sounde. Wee see an infinite number which haue vtterly lost their memorie, and yet faile not to discourse very well. *Thucidides* mencioneth, that in that great plague which

The third. The fourth. The fift. The sixt. The seuenth.

dispeopled

dispeopled almost al Greece, there were moe thē a million, which forgot euery thing euen to their owne name, and yet notwithstanding did not thereupon become fooles. *Messala Coruinus* in his recouerie of a certaine sicknes, did not remember his own name. *Trapezontius* was very wise whilest he was young, but drawing neere vnto old age he quite forgot all. Seeing therefore that one of these faculties may be hurt without the other, we must beleeue that euery of them hath his particular place. If it were committed to me to giue iudgement in this controuersie, I should say that the Greekes had plaide the more subtile Philosophers, and that their opinion is the more true: but that that of the Arabians will euer be more followed of the common people, for that it hath in it a greater shew of euident cleerenes. I will not draw on this disputation to any greater length: it is enough for me to make it appeare that the minde hath three most excellent faculties, al which lodge within the braine, and cause man to appeare more admirable, then any other creature, which inable him also to gouerne all the world, and which giue him the title of a sociable and politike liuing creature.

The conclusiō.

Chap. II.

That this liuing creature full of the image of God, is now and then so farre abased, and corrupted in his nature, with an infinit number of diseases, that he becommeth all like vnto a beast.

COmming to extoll man vnto the highest degree and step of his glorie, beholde him I pray thee the best furnished and most perfect of all other liuing creatures, hauing (as I haue sayd) in his soule the image of God, and in his bodie the modell of the whole world. And now I intend to set him out vnto thee as the most caitife and miserable creature that is in the world, spoyled of all his graces, depriued of iudgement, reason and counsaile, enemie of men and of the Sun, straying and wandring in solitarie places: to bee briefe, so altered and chaunged, as that he is no more a man, as not retaining any thing

The miserie of mankinde.

thing more then the very name. This alteration is seene oftentimes in the soule alone, the bodie standing sound and without blemish: as when a man by his malicious will becomming an apostate and reuolt, defaceth the ingrauen forme of the Deitie, and commeth by the filth of sinne to defile the holy temple of God, when through an vnruly appetite, he suffereth himselfe to be carried in such headlong wise after his passions, either of choler, enuie or gluttonie, as that he becommeth more outragious then a lyon, more fierce then a tyger, and more filthie and contẽptible then a swine. I goe not about to redresse this deformitie, I leaue the discourse for the learned Diuines. Yea and if a man doe but take some paines in morall Philosophie to reade it, he shall finde right holesome precepts, for the staying and brideling of these fooliſh passions.

The minde alone corrupted the body standing sound.

I come to the other deformitie, which is violently throwne vpon man, and may happen vnto the most religious, being, when the bodie, which is as it were the vessell of the soule, is so greatly altered and corrupted, as that all the noblest faculties of the same, are likewise corrupted, the sences seeme all of them to wander and goe astray, euery motion to be out of order, the imagination troubled, the reason fooliſh and rash, the memorie altogether giuen to let slip and flie away whatsoeuer it should retaine. The first deformitie deserueth correction, as comming of a malicious minde and voluntarie action: but as for this which is constrained and violently inflicted by diseases, it deserueth to bee weighed of euery one with a tender and charitable compassion. But the diseases which doe most sharply assaile our mindes, and captiuate and make them thrall vnto the two inferiour powers, are three; the frensie, madnes, and melancholie. Looke vpon the deedes of frentike and mad men, thou shalt not find therein any thing worthie of a man, he biteth, he shriketh, he belloweth out a wilde and sauadge voyce, rowleth about his fierie eyes, setteth vp his haire, runneth himselfe headlong into euery thing indifferently, and very oft murthereth himselfe. See how melancholike men do now and then so cast downe and abase themselues, as that they become companions to the brute beasts, and haue no pleasure to bee any where but in solitarie places. I am about to describe him out vn-

The minde corrupted through a corrupt bodie.

The diseases affailing our minde.

to thee in most liuely manner, and then thou shalt iudge what a maner of man he is. The melancholike man properly so called, (I meane him which hath the disease in the braine) is ordinarilie out of heart, alwaies fearefull and trembling, in such sort as that he is afraid of euery thing, yea and maketh himselfe a terrour vnto himselfe, as the beast which looketh himselfe in a glasse; he would runne away and cannot goe, he goeth alwaies sighing, troubled with the hicket, and with an vnseparable sadnes, which oftentimes turneth into dispayre; he is alwaies disquieted both in bodie and spirit, he is subiect to watchfulnes, which doth consume him on the one side, and vnto sleepe, which tormenteth him on the other side: for if he think to make truce with his passions by taking some rest, behold so soone as hee would shut his eyelids, hee is assayled with a thousand vaine visions, and hideous buggards, with fantasticall inuentions, and dreadfull dreames; if he would call any to helpe him, his speech is cut off before it be halfe ended, and what he speaketh commeth out in fasling and stammering sort, he can not liue with companie. To conclude, hee is become a sauadge creature, haunting the shadowed places, suspicious, solitarie, enemie to the Sunne, and one whom nothing can please, but onely discontentment, which forgeth vnto it selfe a thousand false and vaine imaginations.

The liuely description of a melancholike person.

Then iudge and weigh if the titles which I haue heretofore giuen to man, calling him a diuine and politique creature, can any way agree with the melancholike person. And yet I would not haue thee (O thou Atheist whosoeuer thou art) hereupon to conclude, that the soule of man suffereth any thing in his essence, and thereby to become subiect to corruption: it is neuer altered or changed, neither can it suffer any thing, it is his instrument that is euill affected. Thou maist vnderstand this matter if thou wilt, by a comparison drawne from the Sunne: for euen as the Sunne doth neuer feele any diminishment of brightnes, althought it seeme oftentimes to be darke and eclipsed; for this happeneth either by the thicknes of the clowdes, or by reason of the Moone comming betwixt it and vs: and so our soule seemeth oftentimes to suffer, but indeede it is the bodie which is out of frame. There is an excellent sentence in *Hippocrates*, in the end of his first book

Against Atheists which think the soule to be mortall.

of

of diet, which deserueth to be written in letters of gold. Our soule (saith he) cannot be changed in his essence, neither by drinking nor eating, nor by any excesse, we must impute the cause of all his alterations, either to the spirits wherewith it chiefly hath to deale, or vnto the vessels, by which it diffuseth it selfe throughout the body. Now the instrument of these noble faculties is the braine, which is considered of by the Phisition, either as a similar part, whose health and welfare consisteth in a good temperature; or as an instrumentall part, and then the health and welfare thereof consisteth in a laudable shape both of the bodie, as also of the ventricles of the same. And both these two sorts are requisite for the well executing of these three faculties: It is most true that *Galen* attributeth more to a good temperature, then to a commendable shape, and in one whole booke maintaineth with strong and firme argument, that the maners of the soule doe follow the temperature of the bodie, as thou shalt see in the chapter following. And yet I for my part wil not yeeld so much either to temperature or shape, as that they can altogether commaund and ouer-rule the soule. For such qualities as are naturall, and as it were borne with vs, may bee amended by those qualities which the Philosophers call acquisite, or purchased and gotten by other meanes. The historie of *Socrates* maketh this plaine enough. *Zopyrus* a great Philosopher, taking vpon him to iudge and know at the first sight, the disposition of euery man, as vpon a day he had beheld *Socrates* reading, and being vrgently pressed of all them that sate by to speake his opinion of him: answered at last, that he well knew that hee was the most corrupt and vicious man in the world. The speech was hastily carried to *Socrates* by one of his disciples, who mocked *Zopyrus* for it. Then *Socrates* by the way of admiration cried aloude; Oh the profound Philosopher, he hath throughly looked into my humour and disposition; I was by nature inclined to all these vices, but morall Philosophie hath drawne me away from them. And in very deede *Socrates* had a very long head and ill shaped, his countenance vgly, and his nose turning vp. These naturall inclinations then which proceede of the temperature and shape of the bodie (foreseene that these two vices bee not exceeding great, as in melancholike persons) may bee reclaimed and

A pregnant place prouing the immortalitie.

That a good temperature and laudable figure are requisite for the actions of the soule.

That naturall inclinations may be corrected by studied and laboured ones.

A most excellent historie of Zopyrus and Socrates.

amended, by the qualities which we get vnto our selues by morall Philosophie, by the reading of good bookes, and by frequenting the companies of honest and vertuous men.

Chap. III.

Who they bee which are called melancholike persons, and how one should put difference betwixt melancholike men that are sicke, and those that are sound and whole.

ALL such as wee call melancholike men, are not infected with this miserable pasion which wee call melancholie: there are melancholike constitutions, which keep within the bounds and limits of health, which if we credit ancient writers, are very large and wide. We must therefore for the orderly handling of this matter, set downe all the sorts and differences of melancholike persons, to the end that the likenes of names may not trouble vs in the sequele of this discourse. It is a thing most freely agreed vpon in Phisicke, that there are foure humours in our bodies, Blood, Phlegme, Choler, and Melancholie; and that all these are to bee found at all times, in euery age, and at all seasons to be mixed and mingled together within the veines, though not alike much of euery one: for euen as it is not possible to finde the partie in whom the foure elements are equally mixed; and as there is not that temperament in the world, in which the foure contrary qualities are in the whole & euery part equally cõpounded, but that of necessitie there must be some one euermore which doth exceed the other: euen so it is not possible to see any perfect liuing creature, in which the foure humours are equally mixed, there is alwaies some one which doth ouer-rule the rest, and of it is the parties complexion named: if blood doe abound, we call such a complexion, sanguine; if phlegme, phlegmatike; if choler, cholerike; and if melancholie, melancholike. These foure humours, if they doe not too much abound, may very easily stand with the health of the partie: for they doe not sensibly hurt and hinder the actions of the bodie. It is most true that euery constitution bringeth forth

That there are foure humors in our bodies.

his

his different effects, which make the actions of the soule more quicke and liuely, or more dull and dead. Phlegmatike persons are for the most part blockish and lubberlike, hauing a slow iudgement, and all the noblest powers of the minde, as it were asleepe, because the substance of their braine is too thicke, and the spirits laboured therein too grosse: these are no fit men for the vndergoing of weightie affaires, neither apt to conceiue of profound mysteries; a bed and a pot full of pottage is fitted for them. The sanguine persons are borne for to be sociable and louers of companie: they are as it were alwaies in loue, they loue to laugh and bee pleasant: this is the best complexion for health and long life, because that it hath the two maine pillars of life, which are naturall heate and moysture in greatest measure, and yet such folke are not the fittest for great exployts, nor yet for high and hard attempts, because they bee impatient, and cannot be long in doing about one thing, being for the most part drawne away, either by their sences, or els by their delights, whereto they are naturally addicted. Cholerike persons being hote and drie, haue a quicke vnderstanding, abounding with many sleight inuentions: for they seldome sound any deepe and hidden secrets, it fitteth not their fist to graple with such businesses as require continuance of time and paines of the bodie; they cannot be at leisure; their bodies and spirits doe let them: their spirits are soone spent by reason of their thinnesse, and their weake bodies cannot indure much watching. I will adde also that one thing which *Aristotle* mentioneth in his Ethickes, as that they loue change of things, and for this cause are not so fit for consultations of great importance. The melancholike are accounted as most fit to vndertake matters of weightie charge and high attempt. *Aristotle* in his Problemes sayth, that the melancholike are most wittie and ingenious: but we must looke that we vnderstand this place aright, for there are many sorts of melancholie: there is one that is altogether grosse and earthie, cold and drie: there is another that is hot and adust, men call it *atrabilis*: there is yet another which is mixed with some small quantitie of blood, and yet notwithstanding is more drie then moyst. The first sort which is grosse and earthie, maketh men altogether grosse and slacke in all their actions both of

The effects of phlegme.

Whereunto the sanguine complexion is inclined.

The properties of a cholerike person.

That melancholike persons are ingenious and wittie.

That there are three sorts of melancholie.

bodie and minde, fearefull, sluggish, and without vnderstanding: it is commonly called Asse-like melancholie: the second sort being hote and burnt, doth cause men to be outragious and vnfit to be imployed in any charge. There is none then but that which is mixed with a certaine quantitie of blood, that maketh men wittie, and causeth them to excell others. The reasons hereof are very plaine, the braine of such melancholike persons is neither too soft nor too hard, and yet it is true, that drynes doth beare the sway therein. But *Heraclitus* oftentimes said, that a drie light did make the wisest minde: there are but small store of excrements in their braine, their spirits are most pure, and are not easilie wasted, they are hardly drawne from their purpose and meaning; their conceit is very deepe, their memorie very fast, their bodie strong to endure labour, and when this humour groweth hot, by the vapours of blood, it causeth as it were, a kinde of diuine rauishment, commonly called *Enthousiasma*, which stirreth men vp to plaie the Philosophers, Poets, and also to propheſie: in such maner, as that it may seeme to containe in it some diuine parts. See here the effects of the foure complexions, and how they may all foure be within the bounds of health. It is not then of these sound melancholike persons that we speake in this treatise: We will intreate onely of the sicke, and such as are pained with the griefe which men call melancholie, which I am now about to describe.

Why melancholike men are wittie.

Chap. IIII.

The definition of Melancholie, and all the differences of it.

Diseases commonly take their names, either from the place which they seaze vpon, or of some irkesome accident accompanying them, or of the cause which causeth them. Melancholie marcheth in his hindermost ranke: for this name was giuen it, because it springeth of a melancholike humour. Wee will define (as other good authors doe) a kinde of dotage without any feuer, hauing for

Whence melancholie tooke his name.

for his ordinarie companions, feare and sadnes, without any apparant occasion. Dotage in this definition standeth for the *Genus*, the Greekes call it more properlie, παραφροσύνη, the Latines *Delirium*. There are two sorts of dotage, the one without a feuer, the other with a feuer: that which is ioyned with a feuer, is either continuall, and haunteth the sicke continually, or else it taketh him at certaine times, distinguisht by distance: that which is continuall, is properly called frensie, and it commeth either through the inflammation of the braine and his membranes, or of the inflammation of the muscles, called *Diaphragma*: and this is the cause why the auncient Greeke writers do call the said muscle φρένες: that dotage which commeth by fits, happeneth commonly in burning agues, and in the state or full strength of feuers tertians, and it is called παραφροσύνης. The other sort of dotage is without a feauer, and it is either accompanied with rage and furie, and then it is called *Mania*, or madnes: or else with feare and sadnes, and then it is called melancholie. Melancholie therefore is a dotage, not coupled with an ague, but with feare and sadnes. We call that dotage, when some one of the principall faculties of the minde, as imagination or reason is corrupted. All melancholike persons haue their imagination troubled, for that they deuise with themselues a thousand fantasticall inuentions and obiects, which in deede are not at all: they haue also verie oft their reason corrupted. Wherefore we cannot make any doubt, whether melancholie be a dotage or no, but it is ordinarylie without a feuer, because the humour is drie, and hath these two qualities, coldenes, and drynes, which are altogether contrarie vnto putrefaction, so that there cannot any puttified vapour breath out of them, (no more then there doth out of meere ashes) which might be conueyed to the heart, there to kindle the fire and procure a feauer. Feare and sadnes are vnseperable companions of this miserable griefe, for some reasons which I will set downe in the chapter following. Beholde here the description of melancholie, as it is a symptome or accident, which hath relation to some action, hurt and hindered, that is to say, to the imagination and reason depraued and corrupted. This accident is as it were an effect of some cause, and dependeth immediatlie vpon a disease; for as the shadow followeth

The diuerse sorts of dotage.

What dotage is.

Why melancholie is not accompanied with a feuer.

eth the bodie, euen so the symptome followeth and accompanieth the disease. All the Phisitions both Greekes and Arabians, doe thinke that the cause of this accident is a similar disease, that is to say, a cold and drie distemperature of the braine. The braine then is the part grieued and hurt, but that not by reason of any misshapednes of the same, either by any tumour against nature, neither yet by any thing oppressing or obstructing his ventricles, as it happeneth in the Apoplexie and falling sicknes, but in his proper substance and temperature; the temperature is corrupted, it is become too drie and colde. *Hippocrates* hath obserued the same in his Epidemikes and Aphorismes very excellently. Such (saith he) as haue the falling sicknes, become melancholike, and such as are menlancholicke fall into the falling sicknes, according as the melancholike humour doth possesse the ventricles or the substance of the braine, if this humour corrupt the temperature, which he calleth the minde (because that it seemeth that the most excellent powers of the minde doe execute their functions by the helpe of this temperature) without doubt it will cause melancholie: but if it shut vp it selfe in the ventricles and cauities of the braine, it will cause the falling sicknes, because the ventricles being stuffed, and the spirit not being able to passe freely to the sinewes, the braine draweth it selfe together thereby to enlarge his ventricles, and in this retraction, doth equallie, and as much draw and pull his great tayle from whence all the sinewes doe arise, as it selfe, and thus thereupon ariseth an vniuersall conuulsion. I take it that the definition of melancholie is made cleere and plaine enough, by this little discourse: Now let vs come to the differences and diuers sorts thereof. There are three kindes of melancholie: the one commeth of the onely and sole fault of the braine, the other sympatheticallie proceedeth from the whole bodie, when as the whole temperature and constitution of the bodie is melancholike; the third ariseth from amongst the bowels, but especially from the spleene, liuer and the membrane called mesenterium. The first is called simplie and absolutelie by the name of melancholie, the latter is called the windie melancholie with an addition. The first is the most tedious of all the rest, it vexeth the patient continuallie, affoording little or no breathing whiles vnto him: that which

riseth

Melancholie is a similar disease.

How that in it the temperature of the braine is hurt.

How it commeth to passe that melancholike men fall into the falling sicknes.

The differences of melancholie.

riseth from amongst the bowels, doth handle the grieued nothing so roughlie, it hath his periods, oftentimes making truce with the diseased. The first hath many degrees of afflicting: if it haue nothing in it extraordinarie, it shall not alter his name, but and if it fall out to affect the partie altogether with sauage conditions, it shall be called Wolues melancholie; if with raging and violent passion of loue, Knights melancholie. The flatuous or windie melancholie hath also his degrees, for there is some sorts of it but easie and light, and there are other some that are very fierce and violent. And now intending to handle all these sorts in order, I will begin with that which hath his seate in the braine.

Chap. V.

Of melancholie which hath his proper seate in the braine, of all accidents which doe accompanie the same: and the causes of feare, sadnes, watchings, fearefull dreames, and other Symptomes.

THat melancholie which commeth of the drie & cold distemperature of the braine, is ordinarilie accompanied with so manifold and tedious accidents, that it should stirre vp euery one to be moued with pitie and compassion; for the bodie is not onely cast into a traunce, but the minde is yet a great deale more violently set on the racke. For here beholde all the tirannous executioners and tormentors of melancholie: feare keepeth companie with it day by day, and now and then assayleth the partie, with such an astonishment, as that he is made afraide, and becommeth a terror vnto himselfe; sadnes doth neuer forsake him, suspition doth secretly gall him, sighings, watchings, fearefull dreames, silence, solitarynes, bashfulnes, and the abhorring of the Sun, are as it were vnseparable accidents of this miserable passion. Here we haue ample occasion administred to enter into some Philosophicall discourses: and for pleasure sake, I minde to recreate my selfe in searching out all the causes of these accidents, beginning with that of feare. The greatest Phisitions are at controuersie, from whence

The accidents happening to melancholike persons.

Why melancholike men are alwaies afraide.

this feare in melancholike persons should come. *Galen* imputeth all vnto the colour which is blacke, and thinketh that the spirits being made wilde, and the substance of the braine, as it were cloudie and darke, all the obiects thereof appeare terrible, and that the minde is in continuall darkenes. And euen as wee see the night doth bring with it some maner of feare, not onely to children, but sometimes also to the most confident: euen so melancholike persons hauing in their braine a continuall night, are in vnceassant feare.

Galen his reason.

Auerrhoes mocketh Galen.

Auerrhoes that had deeper insight in Philosophie, then fame his skill in Phisicke, and being the sworne enemie of *Galen*, laugheth to scorne this reason. The colour (saith he) cannot be the cause of this feare, because colours can alter nothing but the eyes, being onely the obiect of the sight, so that the minde can see nothing without the eyes. But there is neuer an eye in the braine; how then can it finde it selfe agrieued at the blacknes of the melancholike humour, seeing that it cannot see it? I adde for the more confirmation of *Auerrhoes* his argument, that the blacknes of the colour is so farre from being any cause of this feare in melancholike persons, as that it is rather that colour which they most loue, as being enemies to Sun and light, and following darkenes altogether, seeking after shadowed places, walking often in the night, and that with greater boldnes then vpon the day.

The colour of the humour is not the cause of feare.

The first reason.

The second.

The third.

Furthermore, madnes is caused of an humour, as blacke as that which causeth melancholie, for the humour called blacke choler, is altogether blacke and glistning like pitch, and therefore can make blacke the spirits and braine, as well as the other. But we see it falleth out, that mad men are nothing fearefull, but rather bolde and furious, not taking acknowledgement of any danger, as appeareth in their headlong casting of themselues into the deuouring fire, and vpon the murtherous knife.

The fourth.

Finally, if blackenes should be the cause of such feare, it should follow on the contrarie, that whitenes should make them bolde; but how is it then, that such as abound with Phlegme are also commonly fearefull? the colour therefore cannot be the cause of this feare. But saith *Auerrhoes*, it must needes be, that the cause hereof is the temperature of the melancholike humour which is colde, and worketh effects contrarie vnto those of heate. Heate maketh men bolde,

Auerrhoes his opinion.

quicke

quicke of motion, and headlong in all their actions: colde on the contrarie maketh them fearefull, leaden-heelde, and not reſoluing of any thing. All ſuch as are of a colde temperament, become fearefull: olde folkes ordinarilie are fearefull, and ſo are gelded men alſo: women are alwaies more timerous then men, and to be briefe, the qualities of the minde doe follow the temperament of the bodie. Loe here the contrarie opinions of theſe two great and famous men: I thinke they may be reconciled, if wee would ioyne theſe two cauſes together, that is the temperature of the humour, as the chiefe and principall, and the blacke colour of the Spirits, as that which may much further and helpe forward the ſame. The melancholike humour being colde, doth not onely coole the braine, but alſo the heart, (being the ſeate of this couragious facultie of the Soule, which men call the inſtinct and pronenes of nature vnto anger) and rebateth the flames therein; hence creepeth out feare: the ſame humour being blacke, cauſeth the animall ſpirits, which ought to be pure, ſubtile, cleere and lightſome, it maketh them I ſay groſſe, darke, and as it were all to be ſmoked. But the ſpirits being the chiefe and principall inſtrument of the minde, if they be blacke and ouercooled alſo, doe trouble her moſt noble powers, and principally the imagination, preſenting vnto it continually blacke formes and ſtrange viſions, which may be ſeene with the eye, notwithſtanding that they be within. This is a deepe reach, which no man hitherto (it may be) hath attayned, and it ſerueth infinitely for the defence of *Galen:* The eye doth not onely ſee that which is without, but it ſeeth alſo that which is within, howſoeuer it may iudge that ſame thing to be without. Thoſe which haue ſome ſmall beginnings of a Cataract, doe ſee many bodies flying, like to Ants, flyes, and long haires, the ſame alſo doe ſuch as are readie to vomite. *Hippocrates* and *Galen* place amongſt the ſignes and tokens of a criticall fluxe of blood, theſe falſe apparitions, as when one ſeeth red bodies hanging in the ayre, which yet notwithſtanding are not there, becauſe that then euery one ſhould ſee them: this is an inward vapour which offereth it ſelfe vnto the chriſtalline humour in his naturall colour, and ſo if it ariſe of blood, it appeareth red: if of choler, yellow: and wherefore then ſhould not the vapours of the melan-

The authors iudgement.

That with our owne eyes, we may ſee ſomething within the ſame.

cholike humour, and of the spirits being blacke, ordinarilie present themselues, and appeare in their naturall colour vnto the eye, and so vnto the imagination? The melancholike partie may see that which is within his owne braine, but vnder another forme, because that the spirits and blacke vapours continually passe by the sinewes, veines and arteries, from the braine vnto the eye, which causeth it to see many shadowes and vntrue apparitions in the aire, whereupon from the eye the formes thereof are conueyed vnto the imagination, which being continuallie serued with the same dish, abideth continuallie in feare and terror. That which maketh me to ioyne the blacke colour with the temperature, is, because the braine is very oft of colde distemperature, and notwithstanding we finde not the partie troubled, either with such feare, nor yet such gastlie sights. Fleagme is yet more colde then melancholie, and notwithstanding it troubleth not the imagination, because his whitenes hath some resemblance of the substance of the braine, and with the colour and cleerenes of the spirits: but the melancholike humour is altogether opposite and enemie vnto the same. Our spirits account colde and darkenes to be their enemies, feeling the colde, they draw themselues in, and as darkenes presseth on more and more, so they flie backe into their fort and castle, forsake the vtter parts, and procure vs to sleepe: the melancholike humour hath both these properties, it is colde and darke, it ought not therefore to astonish vs, if that we see it to molest the most noble and principall powers of the minde: seeing it tainteth and brandeth with blackenes the principall instrument thereof, which is the spirit, which passing from the braine to the eye, and from the eye to the braine backe againe, is able to moue these blacke sights, and to set them vncessantly before the minde. Loe heere the first accident which haunteth melancholike persons: they are alwaies full of feare, for they feare euery thing, euen that which is furthest off from feare: they are hartlesse, they honour their enemies, and abuse their friends, they conceiue of death, as a terrible thing, and notwithstanding (which is strange) they oftentimes desire it, yea so eagerlie, as that they will not let to destroy themselues: but this falleth out then only when feare is turned into dispayre, it is true in deede, that this happeneth so oft vnto those whom

That the melancholike humour is altogether contrarie to our spirits.

whom melancholie simply assaileth, as vnto those which are mad. Wee haue very few examples of meere melancholike persons which haue slaine themselues, but of mad men very many are found, and those of great reputation. *Empedocles Agrigentinus* became mad, and cast himselfe headlong into the burning flames of the mountaine Ætna. *Aiax* the sonne of *Telamon* was out of his wits, for that he was not thought worthie of *Achilles* armour, but that it was adiudged vnto *Vlisses*. Whereupon he passed ouer some part of his furie in killing all maner of cattell he met withall, thinking he had slaine *Vlisses* and all his companions. *Cleomenes* being likewise out of his wits, slew himself with his own sword. *Orestes* hauing slaine his mother *Clytemnestra*, was so furiously outraged, that if his deare friend *Pylades* had not carefully watched ouer him, he had destroyed himselfe a hundred times. It falleth out therefore more oft vnto mad, then to melancholike men to kill themselues.

Mad men doe more oft kill themselues, then melancholike persons.

Examples.

The second accident which almost neuer leaueth melancholike persons, is sadnes: they weepe and know not wherefore: I beleeue the distemperature of the humour is the cause thereof: for as ioy and cheerefulnes proceede from heate and moysture well tempered, so heauines and sadnes come from the two contrarie qualities which are found in this humour. For the most part of men of sanguine complexion are cheerefull and merrie, because they consist of a mixture of moysture and heate: cholerike persons are wayward and vnpleasant, because their heate is drie, and hath as it were an edge set vpon it: melancholike persons are sad and peruerse, because they bee cold and drie. Euen so it befell the fillie *Bellerophon*, who (as he is very artificially set out in *Homer*) went wandring through the desart places continually mourning and lamenting. And the Ephesian Philosopher named *Heraclitus*, liued in continuall teares, because (sayth *Theophrastus*) that he was possessed of melancholie; and as his writings altogether confused, and darkned with obscuritie doe sufficiently witnesse the same.

Why melancholike persons are sad.

The accident of suspition followeth the two former hard and close at the heeles: the melancholike party is euermore suspicious, if he see three or foure talking together, he thinketh that it is of

Why they be suspicious.

him. The cause of such suspition riseth of the former feare, and of a corrupt kinde of reasoning: for being alwaies in feare, he thinketh verely that one or other doth lie in wait for him, and that some doe purpose to slay him. Melancholike men (sayth *Aristotle*) doe deceiue themselues commonly in matters which depend vpon choice, for that they oftentimes forget the generall propositions wherein honestie consisteth, and chuse rather to follow the motions of their foolish imaginations.

The cause of their restlesnes.

They are neuer at rest either in their bodies or in their spirits, they can make no answere to such questions as are propounded them, they oftentimes change from one kinde to another. This disquieting and distracting of themselues, ariseth of the diuersitie of matters which they propound and set before themselues, for receiuing all maner of formes, and stamping them with the print of dislike; they are constrained oftentimes to change, and to find out new things, which being no more acceptable to them then the first, doe still continue them in these restles distractions.

The cause of their sighing.

Melancholike folke are commonly giuen to sigh, because the minde being possessed with great varietie and store of foolish apparitions, doth not remember or suffer the partie to bee at leisure to breathe according to the necessitie of nature, whereupon she is constrained at once to sup vp as much ayre, as otherwise would serue for two or three times: and this great draught of breath is called by the name of sighing, which is as it were a reduplicating of the ordinary manner of breathing. In this order it falleth out with louers, and all those which are very busily occupied in some deepe contemplation. Sillie fooles likewise which fall into a wonder at the sight of any beautifull and goodly picture, are constrained to giue a great sigh, their will (which is the efficient cause of breathing) being altogether distracted, and wholly possessed with the sight of the image.

Why they watch and can not sleepe.

The causes of sleepe.

There is yet another accident which is very tedious, and euen consumeth these poore melancholike men, euen continuall watchings. I haue seene some that haue abode three whole moneths without sleepe. Now the causes of such watchings are easie enough to vnderstand, if wee know what it is which causeth vs to sleepe. Men are giuen to obserue in sleepe the materiall, formall, finall

finall and instrumentall cause. The materiall is a pleasant vapour, which is cast vp from the first and second concoction, which whē it commeth to slacken and stop all the sinewes by his moysture, it causeth all sence and motion for to cease. The finall cause is the repayre of spirits, and the rest of all the animall powers which hauing been wearied by continuall labour, doe craue a little relicfe and recreation: this end cannot be obtained, if so bee the minde which setteth all the powers of the bodie on worke, be not vouchsafed some maner of peaceable rest: in this sort the fillie *Dido* all ouerwhelmed with musing pensiuenes, could not espie the approach of night to the shutting vp of her mournfull eyes, or easing of her oppressed heart. The formall cause of sleepe consisteth in the withdrawing of the spirits and naturall heate, from the outward parts, to the inward, and from all the circumference vnto the center. The instrumentall cause is the braine, which must be of good temperature: for if it be too hot, as in frenticke folkes; or drie, as in old folkes, the sleepe will neuer be with peace and quietnes.

The causes of all that watchfulnes which is in melancholike persons.

In melancholike persons the materiall is wanting, the minde is not at rest, the braine is distempered, the matter is a melancholike humour, drie as ashes, from whence cannot arise any pleasant and delightsome vapour, the braine is distempered, and greatly ouerdried, the minde is in continuall restlesnes: for the feare that is in them doth continually set before them tedious & grieuous things, which so gnaw and pinch them, as that they hinder them from sleeping. But if at one time or other it fall out, that they be ouertaken with a little slumber, it is then but a troublesome sleepe, accompanied with a thousand of false and fearefull apparitions, and dreames so dreadfull, as that it were better for them to be awake.

The causes of all their fearefull dreames.

The causes of all these dreames are to bee referred to the propertie of the humour: for as the phlegmatike partie dreameth commonly of riuers of water, and the cholerike of flaming fire: so the melancholike person dreameth of nothing but dead men, graues, and all other such mournfull and vnpleasant things, because he exerciseth his imaginations with formes altogether like vnto the humour which beareth sway in him: vpon which occasion the memorie beginneth to stirre and rouse vp her selfe, or else because that the spiries

spirits being growne as it were wilde and altogether blacke, ranging the braine throughout, and bending themselues to the eye, doe set before the imagination all manner of darke and obscure things.

The cause why they loue darknes.

Melancholike men are also enemies to the Sunne, and shunne the light, because that their spirits and humours are altogether contrary to the light. The Sunne is bright and warme, the melancholike humour is blacke and colde. They desire solitarines, because they vsing to bee busie and earnestly following their imagination, doe feare to bee drawne away by others their presence, and therefore doe auoide it: but the cause of such their vncessant perseuerance in their imaginations, is because their spirits are grosse, and as it were immoueable. They haue their eyes fixed, and as it were set fast, by reason of the cold and drines of the instrument; they haue a hissing in their eares, and oftentimes are troubled with swimmering or giddinesse: and as *Galen* obserueth, they loue silence out of measure, and oftentimes cannot speake, not for any defect of the tongue, but rather because of I cannot tell what maner of conceitednes: finally, they inuent continually some one or other strange imagination, and haue in a maner all of them one speciall obiect, from which they cannot be weined till time haue worne it out.

Why they loue to be silent.

CHAP. VI.

Whence it commeth that melancholike persons haue all of them their particular and altogether diuers obiects: whereupon they dote.

THe imagination of melancholike men bringeth forth such diuersitie of effects, according to the difference of the matters whereabout it is occupied, as that a man shall scarse finde fiue or sixe among ten thousand, which dote after one and the same maner. Whereupon ancient writers haue compared this humour to wine: for as wine (according to the temperature and disposi-

tion

tion of them that drinke it) causeth sundrie and diuerse effects, making some to laugh, and some to weepe; making some lumpish and drowsie, and othersome ouer watchfull and furious: euen so this humour affecteth the imagination after diuerse sorts and fashions. This difference ariseth either from the disposition of the bodie, or from the maner of liuing, or from such studies as the parties doe most applie themselues vnto, or from some other secret and hidden cause. The disposition of the bodie doth propound and set downe such obiects as are all alike, or at the least of very neere resemblance, foreseene that the occasion (that is to say some outward cause) be ioyned therewithall.

A comparing of wine with the melancholike humour.

Whence it commeth that melancholike men haue so fearefull obiects.

Such as are of an extreme drie temperature, and haue the braine also very drie; if they happen commonly to looke vpon some pitcher or glasse (which are things very vsuall and common) they will iudge themselues to be pitchers or glasses. Such as are troubled with wormes either in the stomacke or guts, will easily receiue, if they be melancholikely disposed, that they haue some serpent, viper, or other liuing thing in their bellies. Such as are troubled with very much windines, will oftentimes imagine themselues flying in the ayre, and to become birds. They that abound in seede, will runne a madding after women, hauing the same for continual obiects before their eyes. All these imaginations follow the disposition of the bodie: and as wee see that in sleeping it befalleth vs oftentimes to dreame of a thousand straunge things, which are sutable to the temperature of the bodie and naturall humour, which doth chiefly raigne (and this is the cause why such dreames are called naturall) euen so melancholike folke both waking and sleeping, may be haunted with a thousand vaine inuentions, such as are sutable to the disposition of the humour. Notwithstanding there is difference in the maner of their impressions, for such fearefull visions as in sleepe are seene of the healthfull, doe speedily passe away, not making any abode, because such parties are but slightly affected: but in melancholike persons, the braine may seeme to haue gotten a habit, and therewithall the humour which is drie and earthie, hauing set his stampe in a bodie that is hard, suffereth not it selfe easily to be blotted out.

The first cause.

The second cause of the diuersitie of melancholike mẽ their imaginations.

There are other imaginations in melancholike folkes, that proceede not of the disposition of the bodie, but of their maner of liuing, and of such studies as they bee most addicted vnto. All the conditions of men and all their properties are not like. One man feedeth himselfe with couetousnes, and another with ambition; this sillie man is led captiue of loue, and religious deuotion preuaileth with another. This humour then will imprint in melancholike men the obiects most answerable to their condition of life and ordinarie actions. If an ambitious man become melancholike, he straightway dreameth that he is a King, an Emperour, a Monarke. If he bee couetous, then all his fooliſh imaginations will runne vpon riches. If he be giuen to bee religious, he will doe nothing but mumble of his beades, and you shal neuer finde him out of the Church. If he bee addicted to *Venus* darlings, he will doe nothing but plot the purchase of his loue, and sometimes run after his owne shadow. As much may be sayd of them which loue to contend in law, or of them which in their health were deuoutly addicted vnto some one particular thing. Finally, we obserue and finde such strange imaginations in some melancholike men, as cannot be referred either to the complexion of the bodie, or to their condition of life: the cause thereof remaineth vnknowne, it seemeth to be some secret mysterie. The old writers haue thought that there is some diuine thing in this humour. *Rhazis* and *Tralianus* write that they haue seene many melancholike persons, which haue oftentimes foretolde what afterward hath come to passe. There is an Arabian Phisition, which compareth melancholike men to good huntsmen. For euen (sayth hee) as a good huntsman before he strike or let goe the string of his bow, doth assure himselfe of the fall of the beast: euen so the melancholike person, by the forwardnes of his imagination, doth oftentimes see that which must come to passe, as though it were present before him. We reade that one *Marcus*, and one other called *Molanthius* of Syracuse, became good Poets after their melancholy. *Auicen* noteth that melancholike persons sometimes doe such strange things, that the common people imagine them to bee possessed. How many famous men be there in this our age, which

The third cause.

A comparison betwixt melancholike mẽ, and a good huntsman.

make

make scruple to condemne these olde witches, thinking it to bee nothing but a melancholike humour which corrupteth their imagination, and filleth them with all these vaine toyes. I will not cast my selfe any further into the depth of this question, the matter craueth a man of more leisure. Let vs conclude therefore, that the varietie of things which the melancholike man busieth himselfe withall, commeth either of the disposition of his bodie, or of his condition of life, or of some other cause which is aboue nature. They which cannot at the first time conceiue al these reasons, shall vnderstand them (in my iudgement) if they with patience will take the paines to reade this little treatise, which shall very greatly further the making plaine of this matter, and it shall not be from the purpose. It happeneth all alike to melancholike persons as to those which dreame, and as much doe wee obserue the causes of the one as of the other: for dreames haue recourse vnto the imagination as well as melancholie. But let vs make three sorts of dreames; the one sort is of nature; the other of the minde; and the third is aboue the other two. Those which are of nature, doe follow the nature of the humour which doth most rule: he that is cholerike, dreameth of nothing but fires, fightings and burnings: the phlegmatike thinketh himselfe alwaies to be in water. The knowledge of these dreames is necessarie for a good Phisition, thereby to know the complexion and constitution of his sicke patient. *Hippocrates* hath written a little treatise thereof: whereupon the famous man *Iulius Cæsar Scaliger* hath commented. *Galen* also hath made another, wherein he teacheth that by these naturall dreames, one may foretell the issues of diseases. They (sayth he) which should sweate, dreame commonly that they are in a bath of warme water, or in some riuer. There was one that dreamed that his thigh was become a stone, and as he awoke, the same thigh fell into a palsey.

The conclusion.

Three sorts of dreames.

Naturall dreames.

The second sort of dreames is that which commeth of the minde, as caused by some maner of disturbance happening to the same. Some define this kinde of dreame to bee nothing else but that which hath passed the day before either through the sences, or through the vnderstanding. This kinde of dreame happeneth oftest: for if wee haue seene, or thought vpon, or talked of any

Dreames rising of the troubles of the minde.

thing very earnestly in the day, the night following the same thing will offer it selfe vnto vs. The fisherman (sayth *Theocritus*) dreameth commonly of fishes, riuers and nets: the souldier of alarums, taking of townes, and the sounding of trumpets: the amorous raue of nothing in the night, but of their loues obiect.

Supernaturall dreames.

The last kinde of dreames exceede the course of nature, the power of the sences, and the reach of mans vnderstanding: these dreames are either immediatly from God, or from the Diuell: those which come from God, doe oftentimes put vs in minde of that which must happen vnto vs, and maketh vs partakers of reuelations, containing in them great mysteries. Such haue been in the old Testament the dreames of *Abraham*, *Iacob*, *Ioseph*, *Salomon*, *Nabuchadnezzar*, *Pharaoh*, *Daniel*, *Mardoche*: and in the New Testament, of holy *Ioseph*, the three kings of the East, and Saint *Paul*.

Diuine dreames.

Dreames stirred vp by the diuell.

The dreames called *Diabolicall*, happen very oft of the subtiltie of Satan, who goeth walking round about vs euery day, and seeketh to intrap vs waking or sleeping. Wherefore he setteth before vs oftentimes strange things, and discouereth vnto vs hid and vnknowne secrecies in our sleepe, euen such as nature her selfe may seeme to haue concealed, he troubleth our imaginations with an infinit number of vaine illusions. Loe, here bee all the causes of dreames.

The imagination of melancholike men is troubled three waies.

We may say as much of melancholike persons. Their imagination is troubled onely three waies: by nature, that is to say, by the constitution of the bodie: by the minde, that is to say, by some violent passion, whereunto they had giuen themselues: and by the intercourse or medling of euill angels, which cause them oftentimes to foretell & forge very strange things in their imaginatiõs.

Chap. VII.

Histories of certaine melancholike persons, which haue had strange imaginations.

I Haue largely enough described all the accidents which haunt those which are properly to be tearmed melancholike persons, and

and haue ſearched out the cauſes of al theſe varieties: it behoueth me now in this chapter, (to the end I may ſomewhat delight the reader) to ſet down ſome exãples of ſuch as haue had the moſt fantaſticall and fooliſh imaginations of all others. I will pick ſome out of the Greeke, Arabian, and Latine writers, and I will adde ſome ſuch as I haue ſeene with mine owne eyes. *Galen* in his third booke of diſeaſed parts, maketh mention of three or foure, very well worth the marking. Strange hiſtories.

There was a melancholike man which tooke himſelfe to bee a pitcher, and prayed all that came to ſee him, not to come neere vnto him, leaſt they ſhould daſh him in peeces. The firſt.

Another imagined himſelfe to be a cocke, and did crow when he heard other cockes crow, and bet his armes, as the cockes doe clap their wings. The ſecond.

Another melancholike man was greatly perplexed in himſelfe, fearing that *Atlas* in the end would be wearie of bearing vp heauen, and ſo might let it fall downe vpon him. The third.

Ætius writeth of one, which thought himſelfe to haue no head, and did ſpeake it openly euery where, that there was one which had cut it off for his tyrannous dealings. This man was cured very cunningly, by the skil of a Phiſition named *Philotimus*. For he cauſed a skull of yron waying very heauie to bee put vpon his head: and he thereupon crying that his head did grieue him, was by and by confirmed by all them that ſtood by, which alſo cried: then you haue a head; which hee acknowledged by this meanes, and ſo was freed from his falſe imagination. The fourth.

Trallianus writeth, that he ſaw a woman which thought that ſhe had ſwallowed a Serpent, he healed her, cauſing her to vomit, and caſting now and then a Serpent (which hee had and held all readie in his hand) into the baſen. The fift.

I haue read that a young ſcholler being in his ſtudie, was taken with a ſtrange imagination: for he imagined that his noſe was ſo great and ſo long, as that he durſt not ſtirre out of his place, leaſt he ſhould daſh it againſt ſomething: and the more he was dealt with and diſſwaded, ſo much the more did he confirme himſelfe in his opinion. In the end a Phiſition hauing taken a great peece of fleſh, and holding it in his hand ſecretly, aſſured him that hee The ſixt.

would heale him by and by, and that he must needes take away this great nose: and so vpon the suddaine pinching his nose a little, and cutting the peece of flesh which he had, he made him beleeue that his great nose was cut away.

The seuenth. *Arthemidorus* the Grammarian, hauing seene a Crocodile, was taken with such a feare, as that he forgot all that euer he had knowne, and setled this opinion so deepely in himselfe, namely, that he had lost an arme and a legge, as that he could neuer be perswaded the contrarie.

The eight. There haue been seene very melancholike persons, which did thinke themselues dead, and would not eate any thing: the Phisitions haue vsed this sleight to make them eate. They caused some one or other seruant to lie neere vnto the sicke partie, and hauing taught him to counterfeite himselfe dead, yet not to forsake his meate, but to eate and swallow it, when it was put into his mouth: and thus by this craftie deuise, they perswaded the melancholike man, that the dead did eate as well as those which are aliue.

The ninth. There hath been seene not long since, a melancholike man, which affirmed himselfe the most wretched and miserable in all the world, because he was nothing.

The tenth. There was also of late a great Lord, which thought himselfe to be glasse, and had not his imagination troubled, otherwise then in this one onely thing, for he could speake meruailously well of any other thing: he vsed commonly to sit, and tooke great delight that his friends should come and see him, but so as that he would desire them, that they would not come neere vnto him.

The eleuenth. There is yet an honest man, and one of the best French Poets that is in this Realme, which is fallen within these few yeares into a foolish conceite. Being coursed with a continuall feauer, which was accompanied with much watching, the Phisitions appoynted for him a stupefactiue oyntment, called *Populeon*, and therewith rubbed his nose, forehead, and temples, since which houre, he hath *Populeon* in such hatefull loathsomenes, as that euer since, he imagineth all them that come neere him, to smell thereof: no man may talke with him but a farre off, if a man touch his garments, he casteth them from him, and will weare them no more: in other points

points hee is able to talke very ſenſiblie, and ceaſeth not to goe forward in his Poetrie. It hath been attempted by all the skilfull meanes in the world, to take from him this fooliſh conceite, he hath been ſhewed the deſcription of the oyntment, to put him out of doubt that there goeth no dangerous thing to the making of it, he knoweth it, and is of the ſame minde, but yet this conceite is ſo deepely printed in him, as that hitherto no man hath attayned to know how to diſplace it.

Aretæus in his firſt booke of long diſeaſes, ſaith that he hath ſeene a melancholike man, who hath imagined himſelfe to be of bricke, and would not drinke therefore, fearing leaſt thereby he ſhould haue been diſſolued. The twelfth.

Another imagined that his feete were made of glaſſe, and durſt not walke leaſt he ſhould haue broke them. The thirteenth.

A Baker had conceiued that he was made of butter, and no man could make him come neere either the fire or his ouen, he was ſo much a fraide of being melted. The foureteenth.

The pleaſanteſt dotage that euer I read, was of one *Sienois* a Gentleman, who had reſolued with himſelfe not to piſſe, but to dye rather, and that becauſe he imagined, that when he firſt piſſed, all his towne would be drowned. The Phiſitions ſhewing him, that all his bodie, and ten thouſand moe ſuch as his, were not able to containe ſo much as might drowne the leaſt houſe in the towne, could not change his minde from this fooliſh imagination. In the end they ſeeing his obſtinacie, and in what danger he put his life, found out a pleaſant inuention. They cauſed the next houſe to be ſet on fire, & all the bells in the town to ring, they perſwaded diuerſe ſeruants to crie, to the fire, to the fire, & therewithall ſend of thoſe of the beſt account in the town, to craue helpe, and ſhew the Gentleman that there is but one way to ſaue the towne, and that it was, that he ſhould piſſe quickelie and quench the fire. Then this ſillie melancholike man which abſtained from piſſing for feare of looſing his towne, taking it for graunted, that it was now in great hazard, piſſed and emptied his bladder of all that was in it, and was himſelfe by that meanes preſerued. The fifteenth. As concerning thoſe which thinke themſelues Kings, Emperours, Popes, Cardinals, and ſuch like, ſeeing that ſuch fooliſh conceits are common

mon enough. I haue purpoſed onely to name thoſe which are moſt rare. And thus much for melancholie, which hath his ſeate in the braine, which is cauſed of a colde and drie diſtemperature, either ſimple or mixt with matter. It followeth ſometimes the hote ſickeneſſes of the braine, as frenſies and burning feauers, and then the face appeareth red. *Auicen* obſerueth that ſtammerers, and ſuch as haue rowling eyes, and ſuch as are hairie and blacke, ſuch alſo as haue great veines and thicke lippes, are moſt incident to this kinde of melancholie: ſadnes, feare, deepe muſes, the vſe of groſſe and melancholike meates doe oftentimes cauſe this diſeaſe.

CHAP. VIII.

An order of diet for ſuch as haue this melancholike diſeaſe in the braine.

How greatly good order of dyet doth auaile and profit in olde diſeaſes.

IT ſeemeth to me that I haue read ſome where in *Aretine*, that (in olde diſeaſes, which haue gotten ſome certaine habit) the maner of liuing is to more purpoſe, then whatſoeuer can be drawne out of the moſt precious boxes of the Apothecarie. *Auicen* the chiefe prince of the Arabians, doth teach vs, that the maner of liuing being neglected, may corrupt the beſt ſtate and conſtitution in the world, and contrarywiſe being carefully obſerued, may amend the worſt. And therefore I will begin the cure of theſe melancholike men, by ſetting downe the way to order and gouerne themſelues.

The ayre.

They muſt make choyſe of ſuch an ayre, as is temperate in his actiue qualities, and which is moyſt concerning the paſſiue. It may be made ſuch by art, caſting abroad in your chamber good ſtore of flowers, of Roſes, Violets, and water Lyllies. Or elſe you may haue a great veſſell full of warme water, which will keepe the ayre moyſt continually. It will be needefull to perfume the chamber with Orange flowers, Citron pilles, and a little Storax: the chamber muſt be lightſome, and ſtanding toward the Eaſt. A groſſe, darke, gloomiſh, ſtinking ayre, is very contrarie, howſo-

cuer

euer such persons doe desire the same altogether. It is good to accustome them to beholde redde, yellow, greene and white colours.

As concerning their meats, all such as are grosse, slimie, windie, melancholike, and of hard digestion, doe hurt exceedingly. Meats.

They must haue their bread of good wheate, which is pure, and purged from bran, without fault, and which is (if possiblie it may be) knodden with raine or fountaine water. Bread.

Their flesh must be very young, for that is the best, as for example among the rest that which is of a calfe, kid, mutton, pullet, partridge: and contrarilie, that which is olde, and maketh a grosse nourishment, as is beefe, porke, hare, water fowles, and all wilde beastes, as the wilde Bore & Harts, are very bad. *Galen* forbiddeth the flesh of hee-goates, Buls, Asses, Dogs, Camels, and Foxes, but he might haue spared this his inhibition, for their daintines is not such, as that men should delight in, much lesse doate vpon them. The Arabians commend the braines of things to be good against melancholie, by I cannot tell what propertie: but in my iudgement, they be not very proper and fit, seeing they are enemies vnto the stomacke, and I take them to haue been too superstitious in a great number of things. Flesh.

The fishes that liue in standing waters, as also those of the Sea, which haue a grosse and melancholike flesh, as the Tunnie, Dolphine, Whale, Seale, and all such as haue scales are euill, and not to be vsed in this disease: one may eate of the fishes which liue in cleere and bright waters, and running streames. Salted or powdred fish is starke naught. Egges that are new, soft and potched, and eaten with vineger, or veriuce, are very good. Fish.

The vse of pottage and brothes is very good and necessarie, because this humour being drie, must be moystned. The hearbes ordinarilie to be vsed in them, are Borage, Bugloss, Burnet, Endiue, Succorie, Hoppes, and a little Balme; there must great heede be taken, that there come not any Cole, Blites, Rocket, Cresses, Turneps, Leekes, or very bitter and biting hearbes in them: husked Barlie, blanched Almonds, and grueil, doe serue very excellentlie well, to send vp pleasant vapours vnto the braine. Pottage.

Pulse. There must care be had to abstaine from all maner of pulse, as peason, beanes, and fetches.

Fruites. As concerning fruites, wee will allow, Plumbes, Peares, sweete Pomegranats, Almonds, Raisins, Pine-apples, Citrons, Melons, and especially those apples which haue a merueilous propertie in curing melancholie: we forbid drie Figs, Medlers, Ceruises, Chesnuts, Nuts, Artichoakes Thistles, and old cheese.

Drinke. As concerning drinke, there is some disagreement amongst Phisitions, for some doe allow, and others forbid wine. I am of minde, that as concerning mad men, and them which haue much heate about the inward parts or bowels, and in the braine, wine is very contrarie: but in melancholike persons that are colde and drie, as those of whome wee intreate in this place, a little white or claret wine, which is neither sweete nor thicke, but indifferently delaied, is very good. *Zeno* said oftentimes, that wine doth mitigate the sharpenes of mens manners, as water taketh away the bitternes of Lupines. And *Auerrhoes* writeth, that wine reioyceth the minde and spirits. One may make in the vintage time, an artificiall wine with Borage and Bugloss, (which is most singular in all melancholike diseases) and drinke his first draught thereof, either at dinner or at supper. If a man doubt the sweete sent, hee may cast a bunch of the flowres of Borage onely, or of the hearbe it selfe also, into the wine which he ordinarilie drinketh.

Artificial wine.

Watching is altogether enemie to those that are troubled with this disease, for we must with all the skill and cunning we can, procure sleepe, the meanes to doe it, follow in the next chapter. Moderate exercise may serue to very good purpose, but it must be done in pleasant and delightsome places, as gardens, medowes greene plots, in places where there are many water springs, or some riuers: a man must not tyre himselfe in these exercises, he must rest himselfe oft.

Melancholike persons should neuer be alone, they should alway haue some such companie left with them, as might best like and please them, sometimes they must bee flattered, and yeelded vnto in some part of that which they desire, for feare least this humour which is rebellious by nature, and giuen to selfe wilfulnes,

should

ſhould grow raging and furious: ſome whiles they muſt be chid for their fooliſh imaginations, as alſo reproched and made aſhamed of their cow-hardineſſe, they muſt be imboldned to the vttermoſt that we can, and praiſed in their actions: and if they haue in ſome caſes done ſomething worthie of praiſe, wee muſt put them oft in minde thereof, vphold them with merrie tales: wee may not call to their minde any thing that might cauſe them to feare, nor yet bring them any vnpleaſant tidings. To be ſhort, wee muſt turne backe and driue away as much as wee can from their vnderſtanding, al maner of paſſions ouerthrowing the mind, eſpecially choler, feare and ſadnes: for as *Plato* ſaith in his Dialogue called *Charmides*, the greateſt part of the miſchieſes that fall vpon the bodie, doe come from the minde. The old writers doe commend Muſicke in all melancholike diſeaſes, whether they bee hot or cold. The Arcadians did reclaime the maners of ſuch as were ſauadge and vnnurtured, by Muſicke. *Empedocles Agrigentinus*, did mitigate and appeaſe the furiouſnes of a certaine young man, with the melodiouſnes of his ſong. *Clinius* the Muſition as ſoone as he perceiued his melancholike fit to come vpon him, would betake him to his harpe, and keepe backe by this meanes the motions of the humour. *Dauid* alſo when the euill ſpirit came vpon *Saul*, made him merrie with his harpe, and he found eaſe thereby.

Muſicke very meete for melancholike perſons.

The belly muſt bee kept alwaies ſoluble in all melancholike diſeaſes, and therefore if it neede wee muſt ſtirre it vp by all the meanes we can.

The belly muſt be kept ſoluble

CHAP. IX.

How we muſt cure ſuch melancholike perſons, as haue the diſeaſe growing in the braine.

DAily experience plainly teacheth vs, that all melancholike diſeaſes, are rebellious, long and very hard to cure, and the reaſon thereof is as cleere: for the melancholike humour is earthie and groſſe, enemie to the light, contrarie to the two principles of our life, heate and moyſture, reſiſting

All melancholike diſeaſes are rebellious and very hard to be cured.

sisting the meanes and remedies, neither giuing eare to good aduise, nor yet obeying the holesome precepts of Phisicke. And to be short, it is the very scourge and torment of Phisitions. *Aristotle* in his seuenth booke of Ethikes sayth, that melancholike folk haue alwaies something which doth gnaw and feede vpon them: and this is the cause why they are alwaies running after the Phisition, and yet we ought not to leaue them helplesse. I will set downe in this chapter the most speciall remedies that I haue been able to obserue, together with the order how such melancholike persons must be handled.

Three sorts of remedies requisite in melancholike diseases.

It seemeth vnto me that for the cure of melancholie, wee had neede of three kindes of remedies, that is to say, diminutiues, alteratiues, and comfortatiues. The diminutiues are either letting of blood, or purgation. As concerning the letting of blood which is vniuersall, *Galen* appointeth it to be ministred, in that melancholy which is within the veines, and throughout the whole habite of the bodie, and willeth that if the blood issuing shew fayre and thinne, that it bee stayed by and by: but in that melancholie which hath his seate in the braine, and which commeth of a colde and drie distemperature, he hath forbidden it most expressely. The Arabians commend in the cure of this kinde of melancholie, the letting of blood called particular, to the taking away of the conioyned cause: they open the veines of the forehead, of the nose, and of the eares; they set cupping-glasses vpon the shoulders, hauing first scarified the place; they apply horseleaches vpon the head, and in all melancholike diseases, whether essentiall or accidentall; they cause the hemorrhoides to be opened, hauing the eleuenth Aphorisme of the sixt booke for their ground and warrant, which saith, that in melancholike and mad men the varicous tumour or hemorrhoides appearing, doe heale the same: but all these particular openings of a veine haue no place in the beginning of this disease. Wee must begin with that other kinde of euacuation, which is purgation. It may bee performed by the often vsing of Clisters, Decoctions, Syrupes, and Opiates: the forme of an ordinary Clister for melancholike persons, shall be such as followeth.

Blood-letting respecting the whole body.

Blood-letting respecting some particular parts.

Purging.

A Clister.

Take of the rootes of Holihocke one ounce, of the leaues of Mallowes, Mercurie, Violets, and Hops, of each a great handfull; of

Anise

Anise and Linseede, of each two drammes, of Damaske prunes one dozen, of the flowers of Borage and Violets, and of Barlie a handfull: boyle all together in cleere water, and straine them; adde thereto afterward of Cassia an ounce, of Catholicon halfe an ounce, of oyle of Violets two ounces, and as much of honie of Roses: make thereof an ordinary Clister. The Arabians vse in the disease of melancholie, pilles of Aloes of Hiera, and of *Lapis lazulus:* but I doe not so well like of this forme as of the liquide: it were better therefore to vse decoctions. This potion may serue in the beginning for a minoratiue. Take of Licorice halfe an ounce, of Polypodie of the oke three drammes, of Borage, Bugloss, Balme, and Hoppes, of each halfe a handfull, of Anise and Citron seede, of each a dramme, of orientall Sene three drammes, of the three cordiall flowers a pugill, boyle them all: take of this decoction foure ounces, and infuse therein of Rubarbe a dram and a halfe: after the straining of it, dissolue therein of the syrupe of Roses an ounce, and of the syrupe of Apples as much: make thereof a decoction, which you must take in the morning, and keepe your chamber. There are some which take in the broth of a chicken halfe an ounce of Sene: others an ounce of Cassia, or else the infusion and expression of ten drams of Catholicum. A potion minoratiue.

This sleight purgatiue hauing gone before, the rest of the humour must bee prepared: for, to thinke of the rooting out of the whole at the first blow forcibly, (as the Emperickes doe) were to ouerthrow the sicke partie. Wee must attenuate, soften, and dissolue the same, and follow the precept of famous *Hippocrates*, which sayth in his Aphorismes, that when we will purge any bodie, we must first prepare it and make it fit to flow: for such preparation there is good vse to be made of Iulebes and Apozemes. The maner of preparing of the melancholike humour.

Take of the rootes of Bugloss and Elecampane, of the rindes of the rootes of Capers and Tamariske, of euery one an ounce, of the leaues of Borage, Hops, Succorie, Fumitorie, *Capillus Veneris*, crops of Time and Balme, of each a handfull; of Anise, Fennell, and Citron seede, of each two drammes; of the three cordiall flowers, of the flowers of Oranges and of Epithymum, of each a pugill: boyle them all in fountaine water, and after you haue strained out a pound and a halfe, put thereto of the syrupe of Hops two An Apozeme.

ounces, and as much of the syrupe of Fumitorie, and make thereof an Apozeme, clarifie it and aromatise it with a dram of the powder of Cinamome, or of *Electuarium de gemmis:* it must be taken foure mornings together.

Stronger meanes for the purging of this humour.

The humour being thus prepared, the bodie may be purged againe with the decoction before appointed, whereto you shall put of *Catholicum*, or else of *Confectio Hamech*, which purgeth melancholie very well: or if you please, you may prepare an Apozeme, which will purge euery second time it is taken: the same which is alreadie set downe will serue, if you boyle some orientall Sene and Polypodie in it. If this humour bee too rebellious, and that you cannot purge and auoide it by these benedicts and gentle remedies, you must bee forced to come to such as are stronger. *Ptolomeus* the king vsed in rebellious melancholie *Electuarium Hieralogadium:* but the *Hieras* doe drie ouer much. The Arabians commend the pilles of *Lapis lazulus*, *Pillulæ Indæ*, pilles of Fumitorie, and those of *Lapis armenus*. There are some which make a powder for melancholike persons, and it is an excellent one. Take of *Lapis lazulus*, well washed in Violet water, an ounce, of oriental Sene two ounces, of good Polypodie an ounce and a halfe, of Anise and Citron seede, halfe a dramme; of Sugar candie three ounces, of the foure cold seedes, two drammes; of the flowers of Elder-tree three drammes: make thereof a powder; take thereof the waight of two French crownes. All, both Greeke and Arabian Phisitions, doe appoint in such diseases of melancholie, as are old and hardly remoued, *Hellebor* should bee giuen. It is true indeede that wee must in this case vse discretion, and not to giue it in substance: for the decoction or infusion thereof must be taken, and choise made of that which is blacke and good: for the Apothecaries doe oftentimes sell for blacke *Hellebor* a kinde of *Aconitum*, which is very hurtfull and pernicious, the white is not to bee vsed at all in these cases: there must also diligent care be had not to mixe any thing with the *Hellebor* wee vse, which hath any astringent or binding facultie, such as are *Mirabolanes*, least thereby it might bee staied too long in the stomacke. The Poets that haue written long agoe, haue acknowledged this propertie of *Hellebor* that it hath against melancholike

A purgatiue powder.

The vse of Hellebor.

lancholike diſeaſes, when as they ſend melancholike perſons vnto *Anticyra* where the beſt *Hellebor* groweth: and in *Homer* in his ſecond *Odiſſea*, *Melampus* a great Phiſition is brought in healing the foure daughters of king *Pretus* with *Hellebor*, who becauſe they would bee equall in beautie to *Iuno*, were for a iuſt puniſhment of their arrogancie and pride, made fooles. Some there bee which vſe Antimonie prepared: but all ſuch forcible meanes muſt be preſcribed aduiſedly and with diſcretion. I could like it better to vſe milder things, and to reiterate them the oftner, as a good magiſtrall ſyrupe, or elſe ſome Opiate. The ſyrupe may be made of the iuyces of Borage, Bugloſſe, and Apples, with ſome Sene: or elſe you may vſe the ſyrupe of the Apples of *Sabor* the king. There may an Opiate be made after this faſhion. Take of good Caſſia drawne in the vapour of the decoction of Mallowes, an ounce and a halfe: or (if you will haue it ſomewhat ſtronger) in the vapour of the decoction of black Hellebor, for ſo it will retaine ſome little part of the force & vertue thereof: afterward take of Tamarisk an ounce, of *Catholicum* ſixe drams, of Sene halfe an ounce, & as much of Epithymũ, 3. drams of good Rubarbe beſprinkled with the water of Endiue, vntill it become ſoft and relenting: incorporate all together, and mingle them with the ſyrupe of Violets or Apples, and make thereof an Opiate: whereof you ſhall take euery fiue daies in forme of a bole, the quantitie of an ounce more or leſſe, according to the effect and working thereof. And thus much of purgatiues.

Antimonie.

A magiſtrall ſyrupe.

The ſecond kinde of remedies is ſuch as doth alter the melancholike humor, that is to ſay, which doth take away the diſtemperature therof. This humour offendeth in coldnes and drines, but more in drienes, & this is that very qualitie which maketh it ſo rebellious & hardly to be remoued: the alteration of it thẽ doth conſiſt in the moiſtning of the ſame. *Galen* in his third booke of diſeaſed parts, as alſo *Trallianus* do make more accompt of theſe alteratiues, then they do of the diminutiues, & do confidẽtly profeſſe to haue cured moe melancholike perſons by moyſtening the humours then by purging of it. This moyſtening is accompliſhed by inward and outward meanes: the inward are brothes, apozemes, ſyrupes. I haue ſometime cauſed a melancholike man to

Alteratiue medicines.

That there is more good done by moyſtening then by purging of the melancholike humours.

vſe

Brothes.

vse for a long time together the broth of a chicken, with Borage, Bugloss, Succorie, Burnet, and a little Saunders, and Sassefras, which I caused to be added thereto: whereupon hee found himselfe exceedingly well amended.

Syrupes.

The syrupe of Apples, Bugloss, Hops, and Violets doe macerate this humor in very good sorte: You may prepare an apozeme with the same hearbes which I haue mentioned here aboue. The vse also of Whay, and Goats or Asses milke will serue well to water and moisten this humour withall.

Outward remedies.

The outward remedies are either vniuersall or particular; the vniuersall are bathes. *Galen* boasteth himselfe to haue cured many melancholike persons with the onely vse of baths of warme water, or else you may if the whole body bee very drie, and the skinne very rugged, make an artificiall one with the rootes of Holihocks, leaues of Mallowes, Violets, Lettuses & Succorie, with the seedes of Melons and Gourds, Barley, and the flowers of Violets: you must bathe oft, and stay long in at a time, but not so long as to cause any sweate. At the time of being in the bath you may haue two bags filled with sweete and bitter Almonds, and the seede of Melons, grosly pownded, and therwith rubbe all the skinne ouer. If you wil make your bath well, you must put warme water in your bathing tub ouer night, and there let it stand and breath till morning, at which time you shall go into it. There be many practicioners in Phisicke which make such baths of milke only, as also it is oftentimes done in the case of consumption. In comming forth of the bath, there are some which inioine the body to be annointed al ouer with the oile of sweete Almonds, Violets, or new & fresh butter. There are which applie remedies vnto the head as being the part most affected, and they vse such as doe moisten, whether they be lotions or embrocations, and these made of warme water, and of the same decoctions, or else of the oyles of the seede of Gourdes, sweete Almonds, and Violets, or else of milke.

Bathes.

Ointments for the whole bodie.

Applying of remedies vnto the head.

Comforting medicines.

The third kinde of remedies good in melancholike cases, is of such as doe strengthen and cheere vp the spirits, which are (as *Auicen* saith) become wilde and duskish. It behoueth therefore to strengthen the braine, and to cheere vp the heart: the which intentions

reations are effected by inward and outward meanes: the inward are Syrupes, Opiates, Lozenges and pouders: the outward are Epithemes, bags and ointments. I will giue you an example of each of them: The fittest syrupe that I haue found both for the cheering and moistening of melancholike persons, is this, which I am about to set downe, being first inuented by *Mounsieur Castellane* mine vncle, and one of the greatest and happiest Phisitions of his time, and ordinarily imployed in his calling by Kings and Queenes. Take of the iuice of Borage and Bugloss a pound and a halfe, of the iuice of apples that are very sweete a pound, of the iuice of Balme halfe an ounce, of Diers graines infused in the former iuices a long time, and after strained out, three drammes; of Saffron halfe a dramme, of fine Sugar two pounds: make these in a syrupe boyled to his height, and aromatize it with a dramme and a halfe of the powder of the *Diamargaritum* that is cold, and foure scruples of the powder of Diamber, there must be taken of it euening and morning two or three spoonefull.

Inward remedies.

An excellent Syrope.

There are many sorts of Opiates, but I will content my selfe to set down this one. Take of the Conserue of the rootes of Bugloss, and of the flowers of Borage, of each one ounce, of preserued Mirabolanes, and of the rindes of Citrons condited, of each halfe an ounce, of the confection of Alkermes three drammes, of the powders of Diamargariton and of the Electuarie of precious stones, of each one dramme: make thereof an Opiate with the syrupe of Apples, whereof you must take a little in the morning, drinking after it some Claret wine delayed with the water of Bugloss. I will set downe some receipts of lozenges and powders in the chapter intreating of that melancholie which is begot amõgst the bowels and called the flatuouse or windie melancholie.

Opiates.

The outward remedies are applied vnto the braine and heart. Vnto the braine there are applied powders, and caps. But in as much as the greatest part of these aromaticall things are hote and drie, we must vse them but sparinglie. Vnto the heart wee may more boldly applie Epithemes, Bags, and ointments. Take of the waters of Borage and Bugloss, of each halfe a pound, of the waters of Balme and Scabiouse of each foure ounces, of good white wine two ounces, of the powder of colde *Diamargaritum* one

Outward remedies for the cheering vp of the spirits.

An Epitheme for the heart.

dramme, of the confection of Alkermes three drammes, of the seede of Balme, and Diers graines, of each one dramme; mixe al together, and make Epithemes thereof, and applie them to the region of the heart with a piece of scarlet. If liquid Epithemes dislike you, then you may vse a solide one, with the cordiall conserues, or else you may weare bags vpon the region of your hart; the descriptions whereof I leaue vntill I come to the chapter of windie melancholie, where they shall come in more fitly for the purpose, in asmuch as those which are troubled with the windie melancholie, haue almost continually the panting and beating of the heart. And thus much for the three kinds of remedies, which are (in my mind) needful for the curing of that melancholy which is setled in the braine, being purgatiues, alteratiues, and comfortatiues.

The means to remedie too much watchfulnes.

There remaineth as yet vnremoued a tedious and troublesome accident which is continuall watching, which now and then whippeth melancholike men so cruelly, as that therby many haue bene plunged into the pit of despaire. Wherefore I will addresse my selfe with all the best wits I haue or deuises I can inuent to set downe the meanes of their comfort. Sleepe is procured by inward and outward meanes. We will haue diuers sortes of the inward, because melancholike persons doe loue varietie. We shall make for them mundified barlie, a Condite, an Opiate, a Tart, a Restauratiue, a Potion, a bole, and masse of pils: all giuen to procure sleepe. The mundified barley is made with the flowre of barley prepared as is meet, with Almonds which haue been infused in Rose water, with the foure cold seeds, the seeds of Poppie, & rosed Surgar. The forme of the condite shalbe such. Take of the conserues of the flowers of Borage and Bugloss, of each three drammes, of the pulpe of Gourds confected, and of the rindes of Citrons, of each two drammes, of white Poppie and Mellon seedes, of each a dramme, of rosed Sugar so much as is needfull: make thereof a condite, whereof you shall take at night two or three spoonefuls. The Opiate shall be thus made. Take of the conserues of the pulpe of Gourds, and of the rootes of Lettuse, of each an ounce; of the conserue of Roses and Water-lillie, of each halfe an ounce; of the powder of the colde *Diamargaritum* a dram,

Inward means to procure sleepe.

A mundified barley.

A Condite.

An Opiate.

dram, of Poppie ſeede two ſcruples: make thereof an Opiate with the ſyrupe of Violets. Of this you muſt take at night the quãtitie of a cheſtnut. For varietie ſake you may make a Marchpane. A Marchpane. Take of ſweete Almonds blanched and waſhed in hot water, and afterward infuſed in Roſewater, a pound and a halfe; of white Poppie ſeede very new and well mundified, three ounces; of fine Sugar two pound: worke them into a paſte, and with the water of Roſes make a Marchpane: of this you ſhall take when you go to ſleepe. There are in like maner reſumptiues, or reſtauratiues of a liquide forme. Take the white of a good Capon, of water of Roſes and Water-lillies, of each a quart; of Bugloſſe, Purcelane, and Sorrell waters, of each foure ounces; of the powder of colde *Diamargaritum*, two drammes: diſtill all theſe together in *Maries* bath. The potion may be preſcribed after this maner. Take of the ſyrupe of Violets, Apples and Poppie, of each halfe an ounce, of the powder of *Diamargaritum*, a ſcruple: make hereof a potion with the decoction of Lettuſes and Endiue. And for ſuch as may delight in a bole, this which followeth may ſerue. Take of the conſerue of Roſes three drams, of *Requies Nicolai*, one dram: and with a little Sugar make a bole. Or elſe: Take of the conſerue of the flowers of red Poppie two drammes, of new Treacle one dram, and with a little Sugar make a bole. If pilles be in requeſt, then let there be made as followeth. Take of the pilles of Houndſtongue, or of Styrax, one ſcruple, let them bee moyſtned with the ſyrupe of Apples. The Chymiſts make a *Laudanum*. But in the vſe of all theſe ſtupefactiue medicines taken inwardly, wee muſt take heed to deale with very good aduiſe, for feare that in ſtead of deſiring to procure reſt vnto the ſillie melancholike wretch, wee caſt him into an endleſſe ſleepe.

Reſtauratiues. A Potion. A Bole. Pilles.

The outward remedies are not altogether ſo dangerous, and wee may frame tenne or twelue ſorts of them: as head powders, frontlets, bags, emplaſters, oyntments, epithemes, noſegaies, pomanders, and lotions for the legs. Take of the flowers of red Poppie and red Roſes, of each three drams; of Lettuſe, Purcelane and white Poppie ſeede, of each two drams; of red Saunders and the ſeede of Coriander prepared, of each a dramme and a halfe: make them all into powder, and caſt it vpon the head, the haire being

Outwarde meanes to procure ſleepe. A powder.

A Frontlet. shaued. Of the same powder may a Frontlet bee made, putting thereto of the flowers of Water-lillies and a little Margerome.

Bags. You may make great bagges after the fashion of pillowes, which shall be filled with the flowers of Roses, and the leaues and seedes

An Epitheme. of white Henbane. You may applie this Epitheme vnto the head. Take of the distilled waters of Lettuse, Sorrell and Roses, of each three ounces; of the powder of cold *Diamargaritum* one dram; of red Roses and red Saunders two scruples: make thereof an E-

An oyntment. pitheme. Let the oyntment bee like vnto this. Take of *Populeon* halfe an ounce, and as much of *Galens* cooling oyntment; of oyle of Roses an ounce, mixe all together with a little vineger, and therwith annoynt the head, browes and nosthils. You may also make

An Emplaister this plaister. Take of *Castoreum* a dram and a halfe, of Opium half a scruple: mixe both together with a little water of life, and make two small plaisters thereof, and applie them to the temples. You

Nosegaies. may make Nosegaies of flowers of Violets, Roses, of Willowe and a little Margerome, they must be dipped in rosed vineger, and in the iuyce of Lettuse and Poppie, wherein a little Opium and Camphire hath been dissolued. Or else: Take two heads of Pop-

Nodules. pie beat together, tye them vp in three nodules or knots: then hauing in readines of Styrax three drams, of Rosewater sixe ounces, and a little Opium: dip these nodules in the licour, and smell vnto

A pomander. them oftentimes. There may also an Apple be made to smell vnto. Take of the seede of Henbane, of the rinde of the rootes of Mandrags, of the seede of Hemlocke, of each one dram, of Opium a scruple, of the oyle of Mandrags a little: mixe all these with the iuyce of Fumitorie and Housleeke, and make an apple thereof: which if you smell vnto, it will cause you now and then to sleepe: put vnto these to correct them a little Amber and Muske. There

Blood suckers or horseleaches. are some which with good successe doe applie Horseleaches behinde the eares, and hauing taken away the Horseleaches, they put by little and little a graine of Opium vpon the hole.

Lotions for the legs. Lotions for the legges doe much auaile to cause one to sleepe. Take of the leaues of the Orange tree, and of Margerome, of each a good handfull; two heads of white Poppie, of Roses, and Waterlillie flowers, and Camomill, of each a pugill, boyle them all together in two parts of water, and one of white wine: and here-

with

with you must wash the thighes and legges of the sicke partie at night, letting it be good and hot. I thinke that by this meanes you may procure sleepe vnto the most melancholike man in the world. It is true, that, to preuent that these cooling things may not altogether quench that small store of naturall heate that is in them, you must cause them to take now and then some cordiall Syrupes, or comfortable Opiates. And thus much for the cure of that melancholie which chiefly affecteth the braine. That melancholie which commeth of a drie distemperature of the whole bodie, is cured almost by the same helpes. I come therefore vnto the windie melancholie: but because there is one kinde of this essentiall melancholy, which happeneth through raging and fond loue, and that it requireth a speciall maner of curing, I will first speake of the same.

CHAP. X.

Of another kinde of melancholie, which commeth by the extremitie of loue.

THere is another kinde of melancholie verie ordinarie and common, which the Greeke Phisitions call *Erotike*, because it commeth of a furie and raging loue; the Arabians call it *Iliscus*, and the common sort, the diuine Passion; imputing the cause thereof to the pettie god, which the Poets haue made so great reports of. *Cadmus Milesius* (if we may credit *Suydas*) hath written foureteene great volumes of this subiect, which are not at this day to be found: I will onely make two chapters of it, the one describing the maladie, the other the remedies. I will not here curiously search out the etimologie of loue, and why this name *Eros* was giuen vnto it; neither will I vndertake to define it, seeing very famous and worthie men haue taken the worke vpon them, but haue not brought it to any good end: neither will I examine the differences or royal discent of the same, let them that list, reade what *Plato, Plotinus, Iohannes Picus comes Mirandolæ, Marius*

The names of amourous melancholie.

Equicola, and *Leon Hebraus* haue written thereof: I will satisfie my selfe with the reuailing of one of those thousand effects which it bringeth forth. I intend to manifest vnto euery man by the description of this melancholie, how greatly a violent and extreame loue may tyrannize in commanding both minde and bodie.

How loue is begotten.

Loue therefore hauing abused the eyes, as the proper spyes and porters of the mind, maketh a way for it selfe smoothly to glaunce along through the conducting guides, and passing without any perseuerance in this sort through the veines vnto the liuer, doth suddenly imprint a burning desire to obtaine the thing, which is or seemeth worthie to bee beloued, setteth concupiscence on fire, and beginneth by this desire all the strife and contention: but fearing her selfe too weake to incounter with reason, the principal part of the minde, she posteth in haste to the heart, to surprise and winne the same: whereof when she is once sure, as of the strongest holde, she afterward assaileth and setteth vpon reason, and all the other principall powers of the minde so fiercely, as that she subdueth them, and maketh them her vassals and slaues. Then is all spoyled, the man is quite vndone and cast away, the sences are wandring to and fro, vp and downe, reason is confounded, the imagination corrupted, the talke fond and senceless; the sillie louing worme cannot any more look vpó any thing but his idol: al the functions of the bodie are likewise peruerted, he becommeth pale, leane, sounding, without any stomacke to his meate, hollow and sunke eyed, and cannot (as the Poet sayth) see the night either with his eyes or breast. You shall finde him weeping, sobbing, sighing, and redoubling his sighes, and in continuall restlesnes, auoyding cõpany, louing solitarines, the better to feed & follow his fooliſh imaginations; feare buffeteth him on the one side, & oftentimes dispayre on the other; he is (as *Plautus* sayth) there where indeede he is not; sometime he is as hot as fire, and vpon the sudden he findeth himselfe as colde as ice: his heart doth alwaies quake, and his pulse keepeth no true course, it is little, vnequall, and beating thicke, changing it selfe vpon the sudden, not onely at the sight, but euen at the very name of the obiect which he affecteth. By all these tokens the great Phisition *Erasistratus* perceiued the disease of *Antiochus* the sonne of *Seleucus* the king, who

The effects of violent loue.

Signes and tokens of amorous melancholie.

The historie of Erasistratus.

who was readie to dye for the loue of *Stratonica* his mother in law. For seeing him to blush, to waxe pale, to double his sighes, and change his pulse so oft at the very sight of *Stratonica*, he deemed him to bee troubled with this eroticke passion, and so aduertised his father. *Galen* by the very same wile did finde out *Iusta* the wife of *Boetius* Consull of Rome her sicknes and disease, as that it was her burning loue she bare to *Pylades*. Loe here the effects of this affection, and all such accidents as accompanie this amorous melancholie. Let no man therefore hereafter call it a diuine and sacred passion, if it bee not onely to signifie the greatnes thereof: for the Poets would call the greatest fishes, sacred, and the Phisitions haue giuen the same name vnto that bone, which is the greatest of all the vertebres. Neither let any man call it the sweete passion or affection, seeing of all other miseries, this is the greatest miserie, yea so great as that all the tortures which haue bin so exquisitely deuised by the wit of tyrants, wil neuer be able to exceed ỹ crueltie therof. The Philosopher *Thianeus* knew well what to say to the K. of Babylon, which praied him to inuent some cruel torment for the punishing of a gentleman whō he had found in bed with his paramour: for (sayth he) let him liue, and in time his loue will punish him sufficiently. The Poets haue very well layd open vnto vs the crueltie of this passion, in that their fained fable of *Titius*: who for his exceeding loue vnto the Goddesse *Latona*, is fained to haue his liuer ordinarily fed vpon by two gryphens, and the fibres thereof euery day to grow againe. But how should we not call this a miserable passion, seeing it hath brought many to such extremitie and dispayre, as that they haue killed themselues. *Lucretius* the Poet who had written the cure of loue, became so mad of loue, as that for it he slew himselfe. *Iphis* in dispayre to winne the fauour of *Anaxaretes*, hanged her selfe. A noble young man of *Athens* fell so farre in loue with a marble picture that was very cunningly wrought, as that hauing requested of the Senate that hee might buy it at any price that they would aske, and being denied, as also forbidden to come neere vnto it, for that his fooliish loue did offend all the people: ouercome of dispayre he slew himselfe. See here how loue corrupteth the imagination, and may bee the cause of melancholie or of madnes.

The crueltie of loue.

The fable of Titius.

Of such as haue killed themselues for loue.

madnes. For in thus busying both the bodie and minde, it so drieth the humours, as that the whole frame of temperature, especially that of the braine, is ouerthrowne and marred.

A second kind of amourous melancholie.

There is another kind of amorous melancholy, which is a great deale more pleasant, as when the imagination is in such sort corrupted, as that the melancholike partie alwaies thinkes, that hee seeth that which he loueth, running after it continually, and kissing this his idoll in the ayre, daintily intertaining and welcomming it as though it were present: and, which is strange, howsoeuer the thing which he loueth bee ill fauoured, yet he thinketh it the most beautifull in the world: he is alwaies in hand with the deciphering of the rare beautie therein, he seemeth to himselfe to see long golden lockes, finely friseled and curled with a thousand roundes and winding twirles; a high brow, like vnto the bright heauens; white and smooth, like the polished Alablaster; two starres standing in the head very cleere, resembling the beautifull flowers and sufficiently defended, casting out in most sweete sort a thousand louely streames which are as pearcing arrowes; eyebrowes black as the Ebene wood, little and arched like a bow; a paire of cheekes of white and vermillion colour, like vnto the purple lillie and damaske rose, shewing in their sides a little double trench; a mouth of corall, hauing within it two sets of small orientall pearle, white and close ioyned, and comming out of it a breath more sweete then Amber and Muske, and more fragrant then all the odours of Mount Libanon; a chin, hauing a little round pit, of an vniforme dye, delicate and smooth as the which Satten; a necke of milke; a throte of snow; a bosome full of gelliflowers; two little apples like alablaster balles, white puffed vp are apt to quiuer like a quauemire, though afterward by little & little they falling downe all flat, doe resemble the flowing and the ebbing of the Sea; in the middest therof two knobs of greenish and carnation-like colour, and betwixt this little paire of mountaines a large valley; a skin ouer all the bodie like a Iasper or Porphirite, in the viewing whereof doe appeare many pretie azure veines. To bee short, this poore melancholike man goeth alwaies imagining and dreaming that the fixe and thirtie beauties requisite vnto perfection are therein, and that with such a grace and stately maiestie, as surpasseth al the

The description of perfect beautie.

rest;

reſt; he doteth continually vpon this obiect, runneth after his ſhadow, and is neuer at reſt. There are now ſome certaine yeares paſt, ſince I ſaw a gentleman ouertaken with this kinde of melancholie, he talked being alone vnto his ſhadow, he called it, welcomed it, kiſſed it, ranne after it euery day, and would aske vs if euer wee ſaw ſo faire and beautifull a thing: and this his diſeaſe did thus hold him for three moneths, and afterward he was cured thereof. *Ariſtotle* maketh mention of a young man named *Antiphon*, which ſaw his owne picture continually before his eyes. Some there are which attribute this to the reflexion of the beams which went out of his eyes: but I thinke rather that it was the weakenes and error of his imagination.

Chap. XI.

The meanes to cure the loue-fooliſh and melancholike.

THere are two waies to cure this amourous melancholie: the one is, the inioying of the thing beloued: the other reſteth in the skill and paines of a good Phiſition. As concerning the firſt, it is certaine that the principal cauſe of the diſeaſe which is this burning deſire, being taken away, the diſeaſed partie will finde himſelfe marueilouſly relieued, though notwithſtanding there may remaine behinde ſome certaine prints and skarres in the bodie. So *Eraſiſtratus* hauing diſcouered vnto *Seleucus* the griefe of his ſonne *Antiochus*, who was like to dye for the loue of his mother in law, ſaued the life of the young man: for the father hauing compaſſion vpon his ſonne, and ſeeing him in extreme perill of his life, ſuffered him (as being a Pagan) to inioy the vſe of his owne wife. *Diogenes* hauing a ſonne forciblie and ragingly diſtracted by vnbrideled luſt, was conſtrained (after he had conſulted with the oracles of *Apollo*) to ſuffer him to inioy his beſt beloued, and by this meanes to heale him. I haue in times paſt read a pleaſant hiſtorie of a young man of Egypt, who ſuffered extreame pinching gripes, for the loue of a Curtiſane called

Two waies to cure this diſeaſe.

Hiſtories. The firſt.

The ſecond.

The third, and that very pleaſant.

Theognis, and yet was not regarded of her, as one that stood vpon an excessiue summe of siluer. It happened that this miserable loue-slaue dreamed on a night, that hee held his mistresse in his armes, and that she was altogether at his commaund: whereupon when he awaked, he wel perceiued that this inward fire which whilome fed greedily vpon him, and thereby about to consume him, was become cold & vtterly quenched, so that he sought not any more after the Curtisane: who when she was aduertised of the whole matter as it stood, caused the young man to bee called before the seate of Iustice, alleaging for such her fact, this only reason, namely, that she had healed him. *Bachor* the Iudge did by and by appoint that the yong man should bring a purse full of crownes, and powre them forth into a basen, that thereby the Curtisane might pay her selfe of the ringing sound and colour of the crownes, as he had satisfied himselfe of the sole imagination. The sentence was well liked of all, excepted onely the cape Curtisane *Lamia*, which shewed vnto her friend *Demetrius*, that the dreame had vtterly quenched and taken away all maner of lust from the young man, but that the sight of the gold had inflamed and increased a great deale more *Theognis* her desire, and that for this cause the matter was not equally proceeded in. My purpose in alleadging these three histories, is to shew that this rage and furie of erotike loue, may be staied by the inioying of the thing beloued. But this course of cure being such, as neither ought nor can alwaies be put in practise, as being contrary vnto the lawes of God and men, we must haue recourse vnto the other which dependeth vpon the industrie of the good Phisition. If therefore it happen vnto any Phisition to meete with some of these melancholike patients, thus rauished of loue, hee must first of all assay to draw him with fayre words from these fond and foolish imaginations, shewing him the danger whereinto he doth cast himselfe headlong, and setting before him the examples of such as haue been ouerthrowne thereby, as not onely losing their liues, but their soules also. If all this doe no good, wee must by some other wile, and by the setting a worke of diuers men, striue to make him hate that, which so tormenteth him, as in affirming the thing to bee euill, in calling his mistresse, light, inconstant, foolish, deuoted to varietie, mocking and laugh-

The second way to cure the amorous melancholie. Faire words and cunning speeches.

ing

ing to scorne this his griefe and corrasiue, disdainfull as not acknowledging his deserts, and one which loueth better a base companion to glut her brutish lust, then to intertaine an honest and chast loue. And looke how deeply you dispraise his Ladie, so highly shall you praise himselfe, declaring the excellencie of his vnderstanding, his worthines and deserts. If words be not sufficient and able to cure this inchauntment, as in very deede they can doe very little in place where melancholike conceitednes hath taken roote, wee must bethinke our selues of some other course. Remouing, that is to say, the chaunging of the ayre, is one of the rarest remedies, because that vnder colour of that wee may bestow him in some remote place, and send him quite out of the countrie: for the sight of his mistresse doth daily blow vp the coles of his desire, and the only reciting of her name, serueth as a baite for his ardent affections to bite vpon. It will bee good for him, to lodge in the fields, or in some pleasant house; to cause him to walke often; to keepe him occupied euery houre with one or other pleasant pastime; to bring into his minde a hundred and a hundred sundrie things, to the end he may haue no leisure to think of his loue; to carrie him out a hunting; to the fenceschoole; to holde him vp sometimes with fine and graue stories; sometime with pleasant tales; and therewith to haue merrie musicke: you must not feede him too full or daintily, least the blood beginning to waxe hot, should rouse vp the flesh and thereby renew the olde fire. Take away idienesse, take away bellie cheere, and quaffing of strong drinkes, and without doubt lecherie will fall starke lame.

Change of ayre.

Exercises.

The Poets faigne that Ladie Lecherie could neuer insnare (notwithstanding all her wiles and subtile inchauntments) these three Goddesses, *Pallas*, *Diana*, and *Vesta*: *Pallas* painteth out vnto vs the state of warriours; *Diana* of hunters; and *Vesta* of such as are giuen to fasting and austerenes of life. If all these plots, and an infinite number moe, set downe by *Nigidius*, *Samocrates* and *Ouid* in their bookes of the remedies of loue, proue nothing worth, and that the bodie bee fallen into such extremitie, as that it compelleth the minde to follow the temperature thereof: then

The ſame courſe of Phiſicke is to be taken with theſe amorous ones, which is appointed for the melancholike.

muſt wee handle theſe amorous perſons in ſuch maner, and after the ſame order which I haue appoynted for the melancholike in the chapter going before, and almoſt with the very ſame remedies; wee muſt purge at ſundrie times, and with gentle medicines the humour, which hath grauen ſuch a drie diſtemperature in the braine; we muſt moyſten him by vniuerſall bathes, and by particularly applying of remedies vnto particular places, by an order of diet that is very moyſt; you ſhall feede him with broths, with Almond-milke, with mundified barley made into a creame, & with the broth and milke of a kid. If watching doe oppreſſe him, then you ſhall make your choiſe out of ſuch medicines as I haue ſet downe againſt it. You muſt alſo ſometimes cheere vp the heart and the ſpirits with ſome cordiall Opiate. There are certaine remedies which the old writers haue ſet downe for the curing of this raging loue, but they are diueliſh, and Chriſtians ought not to vſe them. They cauſe the partie to drinke of the blood of him or her which is the obiect of the miſchiefe, and doe warrant that the parties griefe ſhall incontinently dye and decay. I haue read in *Iulius Capitolinus*, that *Fauſtina* the wife of *Marcus Aurelius* confeſſing her griefe, cauſed to be aſſembled all the Chaldeans, Magicians, and Philoſophers of the countrie, to haue a ſpeedie and certaine remedie for this her maladie: they in the end gaue counſaile to cauſe the teacher of defence ſecretly to bee ſlaine, and to cauſe his wife to drinke of his blood, and the ſame night himſelfe to lye with her. This thing was accordingly put in practiſe, and *Fauſtina* her fire was quenched: but ſo, as that of this fierie coniunction was ingẽdred *Antoninus Commodus*, which was one of the moſt bloodie and cruell Emperours of Rome, reſembling rather the ſwaſhbuckler than his father, and which neuer ſtirred from amongſt the companie of maſters of defence. See here how Satan vſeth euery day his malicious crafts, and as it were a ſea of deceiuers and braſen faced fellowes, which goe about abuſing the world.

Diueliſh and forbidden meanes.

The hiſtorie of Fauſtina very ſtrange to conſider.

CHAP.

Chap. XII.

Of the third kinde of melancholie, called the windie or flatuous melancholie, and of his differences.

THere is a third kinde of melancholie, which is the sleighteſt and leaſt dangerous of all the reſt, but the moſt difficult and hard to be throughly knowne: for the greateſt Phiſitions doe make doubt of his eſſence, cauſes, and particular ſeate of reſidence; it is commonly called *Hypochondriake* or flatuouſe, becauſe it hath his ſeate vniuerſally in the region of the bodie, called *Hypochondria*: it is called the windie or flatuouſe melancholie, becauſe it is alwaies accompanied with windines, *Diocles* ſuppoſed it to be an inflammation of *Pylorus*, which is the nether mouth of the ventricle, becauſe the partie affected doth feele himſelfe greatly oppreſſed in that place, as alſo greatlie pained and ſwelled in the ſtomacke, enduring a vehement heate, and as it were a burning fire throughout his bellie, and much windines, which breaketh vpward, with a wateriſhnes, which ordinarilie runneth out of the mouth, as if it were ſome humour flowing from the braine. *Galen* in his third booke of diſeaſed parts, ſeemeth to approue this opinion, neuertheleſſe it hath been confuted and reproued by all the later Phiſitions: for that if it were an inflammation of the ſtomacke, it would be accompanied with a continuall feuer, and the diſeaſe would be ſharpe, or of a ſhott criſis: but wee ſee the contrarie; for the *Hypochondriake* melancholie, is a diuturne diſeaſe, not iudged but in long time, and ſeldome conſorted with an ague. *Theophilus* thinketh that it is an inflammation of the liuer, and of the entrals: if he meane that it is a drie inflammation, called φλέγμονη, his opinion is the better to be liked of, but if he vnderſtand by inflammation, the tumour called Phlegmon, which is a ſwelling (cauſed of blood) againſt nature, it may be condemned in him as well as in *Galen*, for that euery Phlegmon of the liuer and guts, is counted in the number of ſharpe diſeaſes. The moſt learned Phiſitions of our time, haue defined the *Hypochondriake* melancholike

Why it is called the Hypochondriake or windie melancholie.

Diocles, his opinion.

Galen his opinion.

Theophilus his opinion.

The definition of the Hypochondriake diſeaſe.

lancholie, to be a drie and hote distemperature of *Mesenterium*, the liuer and spleene, caused by an obstruction, comming of grosse humours, which being heated, doe breath abroad many vapours, which cause al such accidents as we wil speake of in the next chapter. This definition contayneth all the essence of the *Hypochondriake* melancholie, in as much as it toucheth and teacheth the parts affected, and the causes of the disease. The partes where the *Hypochondriake* melancholie is begotten, are the *Mesenterium*, liuer and spleene: the *Mesenterium* hath a large compasse, for it contayneth a million of veines, an infinite number of glandules, and all that red substance which is called *Pancreas*. This *Mesenterium*, is as it were the mine of a million of diseases, and especiallie of intermitting agues. There may rest and grow hote, the humour causing the *Hypochondriake* melancholie, and that not alone in the veines thereof, but oftentimes in the red substance, called *Pancreas*, which commeth very neere vnto the stomacke, and lieth vpon the gut *Duodenum* or *Pylorus*: and heereby may *Diocles* and *Galen* be excused, which tooke the nether mouth of the stomacke for *Pancreas*, by reason that these two parts doe touch one another. The other part where the *Hypochondriake* breedeth, is the liuer, when it is much heated, and draweth from the ventricle the meates therein, halfe disgested; or else burneth the humours very much, and keepeth them in his owne veines: but that part which procureth the *Hypochondriake* melancholie most of all, is the spleene in as much as nature hath made it for the purging of the blood of feculent and melancholike iuyce: in such sort as that, if it attract and draw not the same vnto it, or cleanse it not to nourish it selfe withall, or expell not that which is superfluous, as in dutie it ought: we neede not doubt, but that this grosse iuyce, casting it selfe into the next veines, doth there take an vnnaturall heate, and maketh a marueilous hurlie-burlie in the whole order of nature. Thus you may heere beholde and learne the parts affected in *Hypochondriake* melancholie, that is to say, the *Mesenterium*, the liuer and the spleene. The cause of their disease, is an obstruction, for the veines of these parts are stuffed and filled of some kinde of humour. This humour is sometime simple, as onely a naturall melancholike humour, or a humour adust and made of blacke choler, or else a flegmatike and raw humour: sometimes it

The parts affected in this disease. The midriffe.

The liuer.

That the Spleene is for the most part the seate of this disease.

The cause of the Hypochondriake disease.

it is mingled of two or three together, which falleth out a great deale more oft, but alwaies it is required, that this humour should growe into some excelliue heate, for to cause the *Hypochondriake* disease to arise thereof. If the matter be cholericke or aduſt, it is quicklie and easilie set on a heate, if it be colde by nature, as is fleagme and melancholie, the long continuance of it in that place, and the breathing of it out being hindred, may cast it into a heate, or else there neede no other thing, but a little leauen (which will be supplied by a small portion of choler aduſt) to leauen the whole lumpe, and set it in a heate: this heate hath been called of olde writers Φλόγωσις, in such maner as that we may define the *Hypochondriake* disease, to be a drie inflammation of the veines of *Meſenterium*, the liuer and spleene, rising of the suppressing of some grosse humours, from this definition we shall gather all the different sorts of the *Hypochondriake* disease: which are taken either from the part affected, or from the matter, or from the accidents thereof. If we looke vnto the parts affected, we shall finde three kindes of the *Hypochondriak:* disease: that is, *Hepatike*, *Splenetike*, and *Meſeraicke*. The *Hepaticke* is caused through the fault of the liuer, which draweth by his excessiue heate, ouergreat a quantitie of crudities from the stomacke, and also it selfe ingendreth through the same distemperature ouer hote humours, which it either retayneth in his owne veines, which are in so great number, as that no man can describe them, or else distributeth them amongst all the braunches of the veine called Porta. The *Splenetick* commeth through defaulte in the Spleene, when it cannot either attract, digeſt or expell the melancholike humour. These defects happen when it is too great or too little; or when being puffed vp with winde, it cannot attract or retayne all the feculent and grosse part of the blood, whereupon it muſt needes cast much of it out againe, and all the bodie growe leane. This is it which *Hippocrates* hath obserued very well in his *Epidemikes*, when hee saith, that they who haue a great Spleene, become leane of their bodie: and the Emperour *Traianus* was wont to compare the Spleene vnto the Exchequer: for looke how the inriching of the Exchequer is the impouerishing and ruine of the people: euen so the greatnes of the Spleene, doth make a thin and leane bodie: the smalneſſe also

The diuerſe ſorts of this diſeaſe.

The Hepaticke.

The Spleneticke.

of

of it comming through default of the framing facultie may be an occasion of this accident: for being disabled thereby to attract or retaine all that melancholike humour which it ought, it is constrained to cast it vp againe, and to disperse it throughout all *Messenterium.* There is a house of great nobilitie, which is subiect vnto this *Hypochondriake* disease, there haue been three or foure of them which haue died at the age of thirtie fiue, and no other cause found of such vntimelie death, but onely the littlenes of the spleene, for it was so little and straite, as that it could not doe his office.

The Mesenteriacke.

The last kinde of the *Hypochondriake* disease, is that which is called the *Meseraicke*, which is begotten either in *Panchreas*, or in the veines and glandules of the *Meseraicke* membrane. *Hippocrates* and many other Phisitions, do acknowledge an *Hypochondriake* disease, caused of the wombe or matrix, after the suppression of the tearmes, or some other matter: it causeth the same accidents that the other, and is oftentimes most fierce and furious, because of merueilous sympathie which the matrix hath with all the rest of the parts of the bodie.

The second difference.

The second difference of the *Hypochondriake* disease, is in respect of the matter: there is one kinde which is made of that melancholie, which is colde and naturall, which keeping it selfe within the veines, and being there pinched for lacke of roome, groweth hote: another is caused of an adust and burnt humour; and the third of fleagme, and other raw crudities mixed with some small quantitie of choler.

The last difference.

The last difference is taken from the accidents: for there is some kinde of *Hypochondriake* disease that is sleight and easie, and there is some other that is more churlish and violent. There is some but young and in the beginning, and there is other some which is come to his state and perfited.

Chap. XIII.

The signes of Hypochondriake melancholie, and the causes of all the accidents that accompanie it.

The accidents of the Hypochondriake

THe *Hypochondriake* disease being throughly growne and perfected, is commonly coupled with an infinite number of grieuous

grieuous accidents, which by times holde the partie with such pangs, as that they thinke to dye euery moment: for beſides the feare and ſadnes they ſuffer, as common accidents to all maner of melancholie, they feele a burning in the places called *Hypochondria*, they heare continually a noyſe and rumbling ſound throughout all their bellie, they are beaten with winde on both ſides, they feele a heauines in their breaſt, which cauſeth them to fetch their breath double, and with a feeling of paine; oftentimes they ſpit a cleere and thinne water; they haue a ſwilling in their ſtomacke, as though it did ſwimme all in water; they feele an extraordinarie and violent kinde of mouing of the heart, called the beating of the heart, and on the ſide of the ſpleene, there is ſomething which biteth and beateth continually; they haue ſome little cold ſweats, accompanied ſometimes with a little ſowning; their face is oftentimes very red, and there appeareth to them in maner of a flying fire or flame which paſſeth away; their pulſes doe change and become little and beating thicke; they feele a weariſomnes and feeblenes all ouer their bodie, and yet more ſpecially in their legs; the bellie is neuer looſe; in the end they grow leaner and leaner by little and little. All theſe accidents depend vpon the generall cauſe which I haue ſet downe, but wee muſt therewithall ſearch and finde out the ſpeciall. The heate and burning which they feele on the ſpleene ſide, on the liuer ſide and about *Meſenterium*, commeth of the burning of this groſſe humour, whether it bee flegme or blacke choler, which in this his heate comming as it were to boyle, is puffed vp and ſendeth his vapours into all the parts neere thereabout. The noyſe which they heare in euery part of their bellie, commeth of the winde which doth runne to and fro in euery place, and doth ſo much accompanie this melancholike diſeaſe, as that for this cauſe old writers haue intituled it the windie melancholie: wee will obſerue in the begetting of this windines the materiall and efficient cauſe. The materiall is a groſſe, blacke, cholerike or flegmatike humour. Theſe two humours are almoſt alwaies mixt in this diſeaſe, becauſe that the liuer being ouerheated (as it is ordinarily in Hypochondriake perſons) attracteth and ſnatcheth from the ſtomacke, which is his very neere neighbour, ſuch meates as are no better then halfe concocted:

diſeaſe complete and come to his perfection.

The particular cauſes of all theſe accidents.

The cauſe of heate.

The cauſe of windines.

The materiall cauſe.

coćted: ſo that there is heaped together a world of crudities within the veines by ſuch attraction of the liuer: as alſo there is made a broode of hot and burnt humours by the diſtemperature of this noble part, in ſuch maner as that thereby is cauſed to bee continually in the veines ſome humours that are raw and not ſufficiently concoćted, and other ſome that are ouer much concoćted: the crude and ſcarſe diſgeſted was attraćted too ſpeedily, the ouer much concoćted and burnt was begotten in the member it ſelfe.

The e'ficient cauſe.

The weakenes of naturall heate is the efficient cauſe of windines, for in mouing and ſtirring of the matter, it is not able to ouercome it throughly, and although the agent or naturall heat ſhould be ſtrong enough, yet not being like vnto the matter in proportion, it may be called weake.

The cauſe of heauines.

The heauines which they feele in their breaſt, commeth either of winde or groſſe vapours, which beare downe the muſcle called *Diaphragma*, the principal muſcle of reſpiratiō, or elſe they pitch themſelues vpon the muſcles running betwixt rib and rib; or laſtly, within the coates of the ribs either inward or outward: and hence come thoſe great tormenting paines which riſe vp to the ſhoulders, and goe downe againe oftentimes vnto the armes, by the continued proceeding of the membranes, and ſympathie of the muſcles.

The cauſe of the water and ſwilling which they haue within them.

The water which melancholike perſons doe ordinarily auoide at their mouth, is one of the moſt infallible tokens of the *Hypochondriake* diſeaſe, if wee will beleeue *Diocles*: the cauſe thereof muſt be imputed vnto the coldnes of the ſtomack, which filleth all full of crudities. This coldnes commeth of the exceſſiue heate of the liuer, which draweth the chylous matter out of the ſtomacke altogether vnprepared, waſteth and conſumeth all the fat of the ſtomacke, and feedeth rauenouſly like a gulligut vpon the heate of all the parts neere about it. I adde further, that oftentimes while the humour is neere vnto boyling, the crudeſt parts thereof are caſt backe againe into the ſtomacke, and cooleth it, in ſuch ſort as that wee may obſerue therein the two kindes of cold, that is to ſay, the priuatiue and the poſitiue, as the Philoſophers are wont to ſpeake.

The cauſe of the beating of the heart.

The inordinate motion of the heart and all the arteries is cauſed of the vapour of this matter ſo ſtirred, which ſetting vpon the heart with great force, and ſeeking the o-

uerthrow

uerthrow thereof, as commonly happeneth in euery conflict and fight, causeth it to bestirre it selfe with a double diligence, but so, as that therein it looseth oftentimes his iust and well proportioned stroke, and thereby the pulses also faile sometimes in that iust measure and time which they ought to keepe. The rednes which appeareth in the face, the vniuersall beatings ouer all the bodie, and the tickling stingings which they feele in euery place, as it were little Pissemires, ariseth either of a sharpe and subtile winde, or else of vapours sent from the lower parts. Colde sweates happen when the vapours rising from the places, called *Hypochondria*, as from a fournace doe pitch themselues vpon the skin, which is a great deale more colde, and therefore doth congeale and turne them into a thicker substance. The lassitude or wearisome feeblenes, which they feele in all their parts, commeth partlie of vapours, which running amongst the emptie spaces of the muscles, and mingling themselues with the substance of the sinewes, doe make them more loose and lanke, and make as it were a sencelesnes: and partlie of crudities and waterish parts, which are in the blood. Leanenes happeneth because there is defect and want of sufficient store of good and laudable blood. The bellie is hard and giuen to costiuenes, by reason of the excessiue heate of the liuer, which wasteth all the moisture of the excrements.

The causes of the rednes and flushes appearing in their face.

The cause of their colde sweates.

The cause of their lassitude.

The cause of their leanenes.

CHAP. XIIII.

Very worthie and notable histories of two persons grieued with the Hypochondriake disease.

THere are found sometimes diseases so straunge in their kinde, as that euen the best able and most sufficient Phisitions know not what to iudge of them. I haue seene two *Hypochondriake* persons so raging mad, as that the former ages neuer saw the like, and it may be the ages to come shall not see such other two of a long time. There was at *Mompelier* an honest Citizen of a melancholike disposition, and by constitution most subiect to blacke choler, who hauing been grieued by the space of two or three

The first histoire.

yeares, with a milder and lighter kinde of windie melancholie, suffered the disease to growe so farre, as that at length he saw himselfe brought to this extremitie. He felt twise or thrise euery day a light kinde of mouing all ouer his bellie, but chiefely on the side whereupon the spleene lieth: there was also so great a noyse made in his bellie, as that not onely the sicke partie, but also all those that stoode by heard the same. This rumbling would last about halfe a quarter of an houre, and afterward vpon the suddaine, a vapour or winde seazing vpon the midriffe and the breast, did lye so wonderfullie heauie vpon him, and so accompanied with a drie cough, as that all men would haue thought him to haue beene short breathed. This accident being somewhat lessned, all the rest of the bodie was in such sorte shaken, that you would haue iudged it like vnto a ship tossed with a most raging storme: he heaued and set, and his two armes were seene to moue, as if they had indured some conuulsion. In the end, these windes hauing coursed through his whole body, & ransackt euery part therof, brake forth with so great violence at the mouth, as that all those that stoode by were afraide, and then the fit ceasing, the sicke partie felt himselfe relieued. And yet this is not all, for two or three moneths before he died, he had euery day two or three little and light soundes, his heart fainted and fayled him by reason of an extreame great desire that he had to pisse, and when he had pissed, he came to himselfe againe: but the fiercenes of the sickenesse was so great, that the Soule in the ende was constrained to forgoe her lodging. I was called to the opening of the bodie, because that ordinarilie I had counselled him in his sickenes, together with one of my fellow Phisitions, *Mounser Hucher* Chancellour of our Vniuersitie, whom I am willing for honour sake to name, and as knowing him to be one of the most learned and best practised Phisitions of our times. I found his breast halfe full of blacke and stinking water, therewith the left ventricle of the heart was all filled, and in the trunke of the great arterie, a man might see the same colour. At which time I calling to minde a notable place in *Galen*, in his sixth booke of diseased parts, I shewed vnto the companie, that the cause of these faintings, and of his earnest desire to pisse, came of this cursed humour, which hauing pained the heart, passed from

thence

thence by the arteries vnto the reynes, and from thence vnto the bladder. It was my intent to ſtand vpon this by the waie, that ſo I may take occaſion to defend *Galen* againſt the falſe accuſations of young Phiſitions, which thinke that putrified and purulent matter gathered in the breaſts of thoſe which are troubled with the diſeaſe Empyema and Pleuriſies, cannot purge and conuay it ſelfe away by the heart or arteries. I haue handled this matter more largelie in the third booke of my Anatomicall workes.

A worthie obſeruation for the defence of Galen.

The other hiſtorie is alſo very ſtrange, I obſerued it this winter at *Towers*, and was called to counſaile about the ſame, with *Mounſer Anſelmeau*, *Valeſeau* and *Vertunian*, very learned Phiſitions, and of great experience. A young Lord euer ſince he was eight or nine yeares olde, was troubled with this *Hypochondriake* diſeaſe: he heard euery day about nine of the clocke in the morning, a little noyſe on his ſpleene ſide: afterward he perceiued a vapour to riſe which made all his breaſt and face red, and ſeazed the top of his head, the veines of his temples did beate very forciblie, the veines of his face were puffed vp, and at the corners of his browes where the veines doe end, he felt an extreame paine, which paſſed not the breadth of a ſhilling, the rednes ran all along his left arme, euen vnto the fingers ends, and was like a Saint *Anthonies* fire or cholerike tumour, called *Eriſipelas*, the right ſide went altogether ſcotfree. All the time of the fit, he was ſo caſt downe, as that he was not able to ſpeake a word, teares trickeled downe his cheekes aboundantlie, and out of his mouth ran an incredible quantitie of water: without he burned, and within he was colde as yce: his left legge was all full of ſwolne veines; and that which I finde moſt ſtrange, on the left ſide of the head, where the hard and rockie bone groweth, there was a peece of a bone carried and ſunke ſomewhat inward, and that without any apparant cauſe, as blow, or fall going before, neither could he ſuffer one to touch him in that place: the diſeaſe hath hitherto been ſo rebellious, as that all the remedies which the beſt learned Phiſitions haue appointed for him, could neuer finde the way to aſſwage and cure it. It was agreed vpon by all our conſents, that it ſhould be impugned by extraordinarie remedies, and by inward cordials, whereof wee haue not as yet heard what is the ſucceſſe. See how.

The ſecond hiſtorie.

Or new remedies deuiſed of our owne braines.

how these grosse burnt, and melancholike humours, continuing in the veines of the liuer, spleene, and *Mesenterium* may cause an infinite number of strange accidents, and are the occasion of a very great iarre and strife, to the disturbing of all that good order and gouernement which should be in the whole bodie.

Chap. XV.

The cure of the Hypochondriake disease.

THere are necessarie for the curing of the *Hypochondriake* disease, two sorts of remedies. The one to be appoynted and vsed when the fit is not, and they are called preseruatiues: the other are to be vsed in the time of the fit, euen then when the partie is haunted of all these accidents: but I will begin with the former. The preseruing of a man from this disease, is attempted by three kindes of remedies, namely, *Diminutiues*, *Alteratiues*, and *Corroboratiues*. The *Diminutiues* are letting of blood and purging: vniuersall Phlebotomie may serue to correct the hote distemperature of the liuer, and to emptie away some part of melancholike blood; it must be done vpon the Basilike veine, which the Arabians call the blacke veine. The opening of particular veines, as the *Hæmorrhoids* is counted amongst the number of the most famous and sure remedies for the cure of the *Hypochondriake*, in as much as they emptie the spleene, and all the *Meseraicke* membrane. There are some which praise the opening of that veine which goeth to the little finger of the left hand, which is called *Saluatella*. The other diminutiue is performed by purgation, which must not be strong, least this humour should growe more fierce. You must purge therefore very gentlie, and at seuerall times. The purgations must be such as purge fleagme and melancholie, because these are the two humours which doe most offend: Sene and Agaricke haue the chiefe and principall place. I haue described in the chapter of the first melancholie, the receipts of many purgations which may serue heere in this place, but for as much as the humour causing the windie melancholie, is compound,

To preserue a man from the Hypochondriake disease.

Euacuating medecines.

Blood-letting.

Purging.

pound, we must be forced to set downe some other sort. I like and approue of magistrall syrupes and Opiates greatly, and they may be framed after this fashion. Take the rootes of Bugloſſe and Asperagus, the rindes of the rootes of Capers-tree and Tamariske, of each an ounce, the rootes and leaues, of Succorie, Borage, Bugloſſe, Hops, Fumitorie, Ceterach, Maidens haire, of each a handfull, of Sea wormewood and Balme a pugill, of Licoriſe and Corans waſht in warme water, of each an ounce, of the ſeedes of Citrons, bleſſed Thiſtle and Endiue, of each two drammes, of the three cordiall flowres, of the flowers of Succorie, of the crops of Tyme and Epythymum, of each a pugill, boyle them all in a ſufficient quantitie of cleere water, and hauing ſtrained it well, take two pintes thereof, and adde thereto of the infuſion of orientall Sene, made in the former decoction, with a dramme of Cloues, an ounce and a halfe of the infuſion of Agaricke, made in the water of Minthes, with a ſcruple of Ginger, and with a ſufficient quantitie of Sugar, boyle them all together, to the height of a ſyrupe, which you ſhall keepe for your ordinarie vſe. Hereof you muſt take two ounces once euery moneth, or twiſe, with the broth of a Chicken, wherein are put Borage, Bugloſſe, Hops, and the Capillar hearbes: you may make a ſyrupe with the iuyces of the ſame hearbes, and put thereto the ſame laxatiues. The Opiate that I haue ſet downe, may ſerue here, but it may be made of a far other faſhion, which purgeth moſt gentlie. Take of the iuyce of Mercurie well purified, as much as ſhall neede, infuſe therein for the ſpace of foure and twentie howres, two ounces of Orientall Sene, and cauſing them to boyle once, afterward ſtraine them ſtrongly, and after boyle the licour ſtrained out, with Sugar, till it come to the forme of an Electuarie, whereunto you ſhall adde of Caſſia new drawne out of the cane, two ounces, of Epithymum, halfe an ounce, of Cloues made in powder, two drammes, then mixing all well together, you ſhall make an Opiate whereof you may take halfe an ounce or more.

A magiſtrall Syrupe.

An Opiate.

They which cannot vſe decoctions nor Opiates, ſhall take pils, made of the extract of Sene, Agaricke and Rubarbe, for other pilles are not ſo fit in this diſeaſe. Take of good Polypodie foure ounces, the rootes and leaues of Succorie, Bugloſſe, Fumitorie, Hops,

The extraction of Sene to be made into pilles.

Hops, of each a handfull, of damaske Raisines a dozen, of the three cordiall flowers one handfull: make a decoction vnto a pint, and boyle therein two ounces and a halfe of Sene, of Epithymum sixe drammes, of good Agaricke halfe an ounce: all these hauing infused together one whole night, straine and presse them out very strongly, putting thereto of good Rubarbe, which shall be infused in the foresayd decoction with a little Cinamome, halfe an ounce: afterward you shall put all this together vpon hote ashes, you shall thereupon drie them, til they come to a reasonable thick consistence, and then putting thereto of Epithymum three drams, you shall make all vp into a masse of pilles, which will purge very gently if you giue thereof at one time the quantitie of foure scruples. And let these serue for gentle and easie purgations; only you may adde hereunto the often vse of Clisters, which may serue for the windie melancholie. But for as much as this humour is grosse, and for the most part lurking in the most inward veines, it is not very easie to purge it well, if it bee not first prepared: wee must come therefore vnto the second kind of remedies, which we haue called Alteratiues.

Inward Alteratiues.

The alteration to be made must consist in moystning and making thin of this humour: this may bee done by inward and outward remedies. The inward are Apozemes, which must be somewhat opening because of obstructions, and it must be looked vnto with great care, that they be not made with too hot a fire. It will bee very fit to make them of such hearbes as properly respect the liuer and the spleene, and amongst the rest wee must not forget Wormewood: for all good practitioners doe confidently affirme, that the onely decoction of Wormewood hath preserued an infinite number of persons from the windie melancholie. It will not bee amisse to lay in steepe these grosse humours, and for the opening of the vessels to commaund to bee vsed the decoction of the root China with a little Sassafras for the space of twelue or fifteene daies. Broths that doe alter and moysten the humour, the maner of liuing and vse of milke will serue marueilously well for the preparing and moystning of this drie humour.

Apozemes.

The vse of the roote China.

Broths.

Outward alteratiues.

As concerning outward remedies, bathes for the whole bodie deserue to be most chiefly accounted of: there may fomentations also

also bee applied to the spleene, and all ouer *Mesenterium*, as also oyntments and liniments. The fomentations must be mo[illegible]lifying, somewhat opening and making thinne or apt to attenuate, hauing mixt therewithall some carminatiues or things to breake winde: the manner of making them is common enough. The oyles of Capers, bitter Almonds, Broome, Elder, Lillies, Camomil, & Danewort berries, are most fit & proper. The last kind of remedies is of such as are corroboratiues, for there are in this disease of the windie melancholie many parts that are much weakned, hauing bin branded with this humor: as the hart, the stomack and the braine. The weakenes of the heart is caused through the beating and light faintings of the same; the weake stomacke filleth all full of cruditie; the weakened braine causeth that the imagination and reason are oftentimes troubled in this disease. Wee must therefore haue regard vnto these parts. The heart is strengthened by inward and outward meanes: the inward, are Opiates, Condites, and Lozenges. Take the conserue of the rootes of Bugloss, and of the flowers of Borage, of each an ounce; of the flesh of *Mirobalanes* and of the rindes of Citrons confected, of each halfe an ounce; of the confection of Alkermes two drammes; of Pearle and of the powder of Mirth, of each one dramme: make thereof an Opiate with the syrupe of Apples, whereof you must take twice or thrice euery weeke, with a little of the water of Bugloss. Take of the powder of the electuarie of precious stones and of Mirth, of each a dram; of the confection of Alkermes halfe a dram; of Pearle & Emerald made in powder, of each one scruple; of Sugar dissolued in the water of Bugloss or Balme so much as needeth, make vp Lozenges of the waight of 3. drams: you must take hereof euening and morning twice or thrice euery weeke.

Of the berries.

Comfortable medicines.

Meanes to comfort the heart.

An Opiate.

Confectionis lætificantis.

Lozenges.

For such as are more delicate and daintie, there are some that make confections of Muske. Take the third part of a Nutmeg confected, of the rindes of Citrons three drammes, and as much of *Mirobalanes* confected, of Amber grise halfe a dramme, and as much of Muske, of Sugar the double quantitie of all the rest, and with the muscilage of Gumme Tragacanth drawne in the water of Bugloss make Muscardins. You must not often vse these hote

Musk-cordials.

medicines in the *Hypochondriake* disease, for feare of mouing and enraging of the humour.

Outward remedies.

The outward remedies to fortifie the heart withall, are liquide and solide Epithemes, oyles, oyntments and bags. Take the waters of Bugloſſe, Balme and Roſes, of each foure ounces; of white wine an ounce and a halfe; of Dyers graines, of cordiall flowers, of each a dram; of the powder of *Diamargaritum* and Diamber, of each halfe a dram; of Saffron halfe a ſcruple: mixe all together and make thereof Epithemes, which you ſhall applie vnto the heart. Take of the conſerue of the flowers of Borage, of Roſes, and of Balme, of each two ounces, of the confection of Alkermes and of the Iacinth, of each two drammes, of the powder of precious ſtones and of Mirth, of each halfe a dramme: make thereof a ſolide Epitheme in forme of a cataplaſme, with the water of Balme, or of the flowers of Oranges, and this you ſhall ſpread vpon a peece of ſcarlet, and apply it to the heart. Take the oyle of Ieſamin and of Coſtus one ounce, of Amber griſe three graines, chafe therewith the region of the heart, or elſe prouide you ſome naturall Balme. Take of the flowers of Camomile, Roſemarie and Orange tree, of each two drams, of Ziloaloe, of ſweete Saunders, of each one dram, of the oyle of Ieſamin and naturall Balme, of each one ounce; of Amber and Muske ſixe or ſeuen graines: make hereof an oyntment with a little white waxe, and annoynt therewith the region of the heart. Take of the leaues of Balme, of the flowers of Borage and Bugloſſe of each halfe a handfull, of the rindes and ſeede of Citrons two drams, of the ſeede of Balme, Baſill, and Cloues, of each a dram; of the powder of Pearle, Emerauld and Iacynth, of each halfe a dram; of the bone of a Harts heart one dram, of red and yellow Saunders one dram, of good Amber foure or fiue graines: pound them all and make a ſtomacher of red taffata well quilted, and weare it ordinarily vpon the hart. Thus much concerning the proper remedies as well inward as outward for the ſtrengthening of the heart, and taking away of ſuch weaknes, as commonly happeneth to them that haue the windie melancholie.

Liquide Epithemes.

Solide Epithemes.

Oyles.

An oyntment.

Bags.

Meanes for the ſtrengthening of the ſtomack

The other part to bee ſtrengthened is the ſtomacke, and to preuent that it may not beget ſuch great ſtore of crudities, you ſhall

vſe

vse powders helping disgestion, and certaine oyles properly vsed in such cases for the annoynting thereof: The digestiue powder must not be too hot. Take of Anise and Fennell confected of each three drams, of the rindes of Citrons confected one dram, of prepared Pearle and red Corall, of each one halfe a dram, of fine Cinamome two scruples, of rosed Sugar foure ounces: make them in powder, and take thereof a spooneful alwaies after your meate. Outwardly you may strengthen the stomacke, by annoynting it with the oyle of Nutmeg, Spikenard, Wormewood, or with some bag made of Wormewood, Balme, Cloues, Macis, Cinamome, red Roses, and such like powders: it is meete that diligent care be had that they bee not applied vpon the place of the liuer, because the hote distemperature of this part is commonly the originall of all *Hypochondriake* diseases. And for this cause you may annoint the liuer with the oyntment of Roses and Saunders well washed in Succorie water: or else you shall apply thereupon Epithemes of the waters of Succorie, Endiue, Sorrell, the seedes of Endiue, cordiall flowers and red Saunders. As concerning the braine which is weake, to the end it may not be subiect to so great quantitie of vapours, you may strengthen it with powders appropriate for the head, and sleight parfumes.

A digestiue powder.

Meanes to be applied outwardly to the stomacke.

And thus much as concerning preseruatiues which are to be vsed when the fit is not, and which without all doubt will keepe the fit from comming: for taking away the cause of accidents, it must needes fall out that the effects cease. But when the fit of the windie melancholie shall put the sicke partie in paines, you must vse other meanes, which the Phisition shall alter and varie according to the accident, which is most strong and vrgent. As, if it be feeblenes, you shall leaue to doe all other things, and only strengthen the heart, and that by vsing the remedies before described. As, you may take of the confection of Alkermes, of bread dipped in wine, of Lozenges, cordiall Opiates, and the rindes of Citrons. You shall also apply vnto the heart, liquide and drie Epithemes, oyles, baulmes, oyntments and bagges. If heauines (which is the most common accident in the windie melancholie, as that which is caused of the grosse vapours, or of the winde which waigheth

Remedies to be vsed in the accesse of the disease.

Remedies and helpes against feeblenes.

Remedies against oppression through windines.

downe the midriffe and membranes) doe lye grieuouſly vpon the partie; it will be good to chaſe and rub the thighes and legs lightly, to miniſter a Cliſter to breake windines, to apply great cupping glaſſes vpon the region of the ſpleene, vpon the nauell and all ouer the bellie: and if the griefe of theſe windes be very great, you may take a ſpoonefull of *Ros Solis*, or Cinamome water diſtilled, or *Aqua cœleſtis*, or elſe two or three drops of the eſſence of Aniſe ſeede in a little broth very hote, or a little Treacle and Mithridate: if the winde doe continue vnremoued, and will not ſtirre out of the breaſt, you ſhall remoue them with ſome bags applied very hote, and theſe ſhal be made of the flowers of Camomile and Melilot, of the crops of Dill, of Millet and fried Oates. You may in like manner apply vpon the region of the ſpleene fomentations, which will reſolue and waſte ſome part of theſe groſſe vapours. Theſe are the three ſortes of melancholie, which ancient writers haue deliuered vntó vs, that is to ſay, that which hath his ſeat in the braine, that which commeth of the ſympathie of the whole bodie, and that which ariſeth ordinarily from the places about the ſhort ribbes, which is more common then either of the other, and which is ſo often happening in theſe miſerable times, as that there are not many people which feele not ſome ſmatch thereof. I come to the third diſeaſe of Madame Dutcheſſe of *Vzez*, which is the Rheume.

THE

THE THIRD DISCOVRSE, WHEREIN IS HANDLED THE breeding of Rheumes, and how they are to be cured.

CHAP. I.

That the braine is the seate of cold and moysture, and by consequent the fountaine of rheumes and distillations.

IT is not without cause that *Hippocrates* (that great oracle of Greece) hath written in diuers places, that the braine is the principall seate of cold and moysture: for if we looke vnto his marrowie substance, his cold temperature, his round forme, hollow and somewhat long like to the fashion of a cupping glasse, and his high situation, receiuing al the vapours of the inferiour parts: we shall finde that all these dispose it and make it apt to beget and containe great quantitie of water. The substance of the braine was of necessitie to be soft and marrowie, that so it might the more easily take the stampe of formes: and to the end that sinewes which must spring and rise from thence, might with least annoyance and paine bend or bow themselues. But indeed this marrowie substance is not so called for any resemblance it hath with the marrow in the hollow parts of other bones: for it serueth not for nourishment vnto the skull; it melteth not with fire nor consumeth; his originall is more excellent, for it is made with the other parts, that are of the purest and finest portion of the two seeds. The temperature of the braine must be cold, thereby to temper the spirits of sence and motion, to resist their aptnes-

That the brain is the mansion of colde and moysture.

Why the temperature of the braine is cold.

nes to be wasted and spent, and to keepe that this noble member (which is commonly imployed about so many worthie actions) should not set it selfe on fire, and make our discourses and talke rash and headie, and our motions out of order, as it befalleth them which are frenticke. It hath oft astonished me to thinke, how that great Philosopher *Aristotle*, durst say, that the braine was made cold, onely to coole the heart, not acknowledging any other vse of this his temperature. If the time and place would permit me to confute his errour, I would make it appeare that the heele hath more force to coole the heart, then the braine: but fearing to wander too wide out of my way, I will referre the reader vnto that which *Galen* hath written in his eight booke of the vse of parts. I will follow the leuelling line of my discourse, and say that the braine being of a soft substance and of a cold and moyst temperature (being compared with the rest of the parts of the bodie) doth beget many excrements: and for that it is nourished with a cold and raw blood, there must needes remaine great surplusages, and so it cannot but beget great store of superfluities: in such sort as that of it selfe and of it owne proper nature it is continually disposed, to beget and containe water. It begetteth much also in respect of his shape and situation. His forme which is round, hollow and long, after the manner of a cupping glasse, draweth vnto it from all the parts of the bodie their exhalations. His situation which is aloft doth easily receiue them: so that these hote vapours falling into a part or member that is more cold, doe grow thicke and turne into water. As wee see the vapours rising, vpon the fire kindled in the parts about the short ribs, when they come to the skinne (which is more cold) to congeale and turne to sweate: Or as exhalations drawne vp by the heate of the Sunne, doe thicken in the middle region of the ayre, and turne into raine, haile, and snow. See then how the braine both of it selfe, as also by accident, is apt to ingender excrements, and how in euery liuing thing it may be called the principall seate of cold and moysture: but chiefly in man, for as much as according to the varietie of the animall functions which he executeth, he aboundeth with greater quantitie of braine, then any other liuing thing doth besides.

Aristotle his error.

That the brain doth beget great store of excrements of it selfe.

It begetteth many also accidentally.

But

But these excrements (if wee beleeue *Hippocrates* and *Galen*) are of two sorts; the one grosse, and the other refined. The subtile and refined doe breathe out by insensible vapours; the grosse doe stand in need of troughs and channels for to rid them by. Nature hath so prouidently forecast for them both, as that no man can but marueile at her industrious paines taken therein: for, to helpe and further the exhalation of the thinner and refined, she hath pearced the skull, and made all those seames which wee see therein, which stand in like stead to the bodie, as a chimney or breathing place doth to a house: and for the grosse excrements, she hath framed two conueiances and particular water draughts, by which all the water-poole doth emptie it selfe, the one of which betaketh it self vnto the nose, and the other vnto the roofe of the mouth. That in the palate is the more common of the two, and it riseth from the third ventricle of the braine, it is wide aboue, and groweth narrower and narrower, like a funnell: and that is the cause why the Anathomists doe call it *Infundibulum*. By this channell all the waterie substance of the vpper ventricles doe purge themselues, and betake themselues to a certaine glandule called the spitting kernell, which drinketh vp like a little spunge all their water, and after suffereth it to glide away very smoothly through many pretie little clefts, which are to be seene by the side of the seate of the bone called *Sphenoides*, and so from thence betake themselues to the palate.

Two sorts of excrements.

Conueiances for the emptying of the sayd excrements.

The conueyance vnto the palate of the mouth.

The other channell is led along to the nose: these bee the two bunches of the braine, which are fashioned like vnto paps. Their principall vse is to receiue the smels, and to conuey them vnto the braine: but when there is great quantitie of excrements, nature doth offer them some hard measures, in causing to runne downe by these two bunchie excrescences the wateriſh humours, which otherwise doe passe by some part of the bone called *Ethmoides*, which is pearced in manner of a searce. These are the two conducts, I meane the nose and the palate, which nature hath ordained for the purging of the braine.

The conueyance caried vnto the nose.

There are some others, but not ordinarie, which *Hippocrates* hath well obserued in his Booke of Glandules, as

the

Extraordinarie conueyances.

the eyes, eares, ſpinall marrow, veines and ſinewes: but theſe doe ſerue but at ſuch times, as things are all out of order, and that the naturall gouernement of the braine is quite peruerted.

Chap. II.

What this word Rheume doth ſignifie, what maner of diſeaſe it is, and in what the eſſence thereof conſiſteth.

IF the braine be of a good temperature, it will not ingender any excrements, but ſuch as are naturall to it, and accordingly auoide them euery daye by ſuch paſſages as nature hath aſſigned it: but and if it be diſtempered, it will gather a great deale moe then it ought, which either of their owne weightines (ſuch is their elementarie forme) will fall downe into the lower parts, or elſe will be thruſt out into ſome other part, by the vertue expulſiue of the braine, which ſhall feele it ſelfe oppreſſed, either with the quantitie or euill qualitie of the ſame. This falling downe of humours in what maner ſo euer it be, is generallie called of the Greekes a Catarrhe, which ſignifieth as much as diſtillation. I know very well, that there is a more ſtrict ſignification of this name, and that as *Galen* obſerueth very well in his third of the cauſes of accidents, a Catarrhe is properly when the humour falleth downe into the mouth: but I will reſt my ſelfe in this place with the moſt common ſignification, and will call all maner of falling downe of humours from the braine, into what part ſoeuer it be, a Catarrhe, rheume, or diſtillation.

What is meant by the word rheume.

That the rheume is an accident.

Rheume if we beleeue *Galen*, is an accident of the third kinde, that is to ſay, an error in the excrements: this accident ordinarilie followeth another, and that is the weakning of ſome action; the action in this caſe weakened or hurt, is concoction. For the braine not being able to diſgeſt his nouriſhment well, ingendreth greater ſtore of ſuperfluities then it ought. The concoction offended, being an accident: doth immediatly depend vpon ſome diſeaſe. This diſeaſe that cauſeth this accident. I thinke that this is for the moſt part a colde and moiſt diſtempe-

rature;

rature; a drie distemperature may by accident sometimes bee cause hereof, as in detayning the vapours, and hindring them from passing any further; a hote distemperature also may be the cause in resoluing the humours present, and too much drawing of the vapours absent, but this happeneth but seldome. The braine then is the part that is principally diseased in the case of rheumes. The disease is a distemperature, which immediatly hurteth the digestion of the member distempered, and of this hurt of disgestion commeth that, which is amisse in the excrement. But to vnderstand the nature of a rheume, it is needefull to play the Philosopher in this sort. A rheume, or distillation, is no other thing then the mouing of humours from one place to another, which the Philosophers call locall. But in euery locall motion, *Aristotle* hath obserued fiue things in his Phisicke: The moueable, that is to say, the thing which is moued; the mouing, that is to say, the thing which doth make the motion; and three tearmes or limits, as the place from whence the motion began, the place by which the motion was made, and the place where such motion staied and ended. In rheumes the moued, is a humour of what condition soeuer it bee, as whether hot or colde, gentle, sharpe, salte, thin, thicke, simple or compound. The mouer of this humour, and causer of it to change his place, (which is called in one word the motiue) is twofold, the one inward, and the other outward. Againe, the inward is twofold: the forme of the humour, and the soule, that is to say, the power expulsiue: the humour if it follow his nature and elementarie forme, must euermore of necessitie fall downeward, because it is heauie and weightie. But it often falleth out that the humour being no longer within the power and iurisdiction of the soule (as when the retentiue facultie is altogether weakened) falleth downe of it selfe, hauing no other motiue of such motion, but onely his owne forme or weightines. So we see the most part of them which die, to be smothered with a rheume, the braine hauing altogether lost his force, and being (as it were) resolued. The other originall that moueth the humours being inward, is the soule; for nature hath giuen vnto euery liuing part a vertue expulsiue, to expell whatsoeuer may annoy it. The braine then (being stirred vp, either by the aboundance of the humour

The definition of rheume.

Fiue things to be noted in a rheume.

1. The moued.

2. The motiue or mouer.

The inward mouer.

which oppresseth it, or by the qualitie which stingeth and biteth it) straineth it selfe to expell it, and to thrust it from it, as far as euer it can. The outward motiue is all that which from without may pinch and presse together, relaxe or loosen, or shake the braine: the colde ayre presseth the braine together, and causeth the humours to fall downe; the ayre and bathes that are hote, doe loosen and resolue the humours; strokes, fals, and violent passions of the minde, may shake the humour which is within the braine, and make it change his place. And thus much for the mouing or motiue. It remaineth that we finde out the three tearmes or boundes within which euery locall motion is bounded. The place from whence the humour beginneth to moue, is within, and without the braine. The humour oftentimes keepeth within the ventricles, and the whole substance of the braine, and beginneth to departe from thence: sometimes it keepeth without the braine, betwixt the bone and his membrane, and causeth outward distillations. The places by or through, which the humour falleth (which is the second bound) are the ordinarie and extraordinarie passages of the braine, the ordinarie are the nose and the Palate: the extraordinarie are the eyes, eares, sinewes, marrow, veines, arteries, and space which is betwixt the bones and the membranes, or the spaces of the muscles. The tearme and limit where the humour endeth his course, may bee any part of the bodie, prouided that it bee in an inferiour region, or place that is lower then the head, and therewithall weake; for you shall neuer finde a rheume to rise from a lower part vpward. And thus much for the vnfolding of the definition of a Rheume, let vs now come vnto his differences.

The outward mouer.

The end wherat the motion beginneth.

The bounds through which.

The bounds where it endeth.

Chap. III.

The differences of a Rheume.

Differences of rheumes according to the matter that makes them.

THe principall differences of rheume, are taken from the matter that falleth downe; from the parts receiuing or sending, from the accidents accompanying the same, and from the maner of their generation. The matter of al rheumes is a humour: I call a humour all that which is actuallie liquid, and swim-

ſwimmeth. But in the humour we may obſerue many things: the ſubſtance, temperature, qualitie, taſte, and mixture, and from euery one of theſe wee ſhall draw ſome differences of rheumes. The ſubſtance or conſiſtence of the humour (for ſo Phiſitions are accuſtomed to ſpeake) is either thin and ſubtile, or groſſe and thicke, or indifferent, and betwixt both. There are then ſome rheumes that are ſubtile, thin, and ſharpe, and there are others more thicke. The temperature of the humour is hote or colde, ſo then there are hot, and there are cold rheumes; but colde rheumes are more common, and are begotten of a colde and moiſt diſtemperature of the braine: the colde diſtemperature weakeneth the concocting faculties, and cauſeth the braine to gather moe excrements then it needeth, and that it cannot diſgeſt the remainder of his colde nouriſhment. The moiſt diſtemperature weakeneth the retentiue faculties, and ſuffereth the humours to fall downe, although they bee not ſuperfluous. Men may diſcerne this colde rheume by many ſignes, for the humour that falleth downe, is nothing ſharpe or pricking, the braine is drowſely inclined, the eyes daſeled, the hearing heauie, the noſtrils ſtopt, all the ſences dull, the face pale, the bodie ſlowe, heauie and lumpiſh, becauſe that the ſtrength of the armes and legges, commeth of the ſtiffenes of the muſcles and ſinewes, but in this caſe the ſinewes are ſoftned, and as it were relaxed, becauſe the braine which is their common originall and fountaine, doth ſwim all in water. The Phiſition ſhall obſerue yet for his further aſſurance, the temperature, age, dwelling place, ſeaſon of the yeare, and order of life: for if the bodie be of a colde temperature, if it be olde, if he dwell in colde, waterie and mariſhie places, and that it be in winter; if he eate ordinarilie of raw fruites, of moyſt and colde victuals, and if he liue an idle and ſlouthfull ſitting life, we neede not doubt but that it is a colde rheume. There be alſo hot rheumes, howſoeuer that many learned Phiſitions denie it, for wee are confirmed in the contrarie, both by the authoritie of *Hippocrates*, and our owne experience. *Hippocrates* maketh mention of a ſommer ſquinancie, which commeth of a ſubtile, ſharpe, and hot diſtillation: and we ſee come forth at the noſe oftentimes, a yellow and cholericke humour, which taketh off all the skin, and it is ingendred ordinarilie of

The firſt difference drawne from the ſubſtance of the humour.

The ſecond differeuce from the temperature.

Signes of a colde rheume.

Hote rheumes.

choler in the braine, which is purged out from thence by the eares. The olde writers haue obſerued very well, that there are three ſorts of excrements ingendred in the braine, as, one ſorte of fleagme; another ſort of melancholie, and another ſort of choler: The fleagmatike paſſe away by the mouth and noſe, the melancholike by the eyes, and the cholerike by the eares: wee ſee alſo when wee make cleane our eares, that all that commeth forth is yellow, and extreame bitter. Then there are hot rheumes, which are ſuch either by their generation, as if they be made of choler; or by corruption, as when fleagme putrifieth, it getteth a certaine acrimonie, and becommeth ſalt. It is eaſie to finde out theſe hot rheumes: for if the humour paſſe by the palate and mouth, they taſte it bitter and pricking, it burneth and taketh off the skin euery where, where it commeth; the face is all red and fierie, the forehead extreame hot, and commonly it walketh hand in hand with an ague: we muſt adde vnto all this a temperature that is hot and cholericke, a hot conſtitution of ayre, a maner of liuing, and all other things which are apt to heate the humours, and to ingender ſuch as are hote. We obſerue furthermore in the humour (beſides his ſubſtance and temperature) what his qualitie is, that is to ſay, the maners thereof: for there are ſome humours which are malicious, and haue a certaine ſecret malignitie, there are ſome more gentle, there are ſome that are concocted, and ſome that are crude and raw. From theſe conditions wee ſhall finde a difference of rheumes; as, there are ſome that are rebellious, as thoſe which accompanie the french diſeaſe, or which riſe of ſome remainder thereof, and theſe are not cured by ordinarie remedies, they muſt be ouercome by ſoueraigne cordials and preſeruatiues: there are other ſome more gentle, which are eaſilie cured and helped by ſome ſimple purgation: there are ſome that are crude, and ſome concocted: it is known to be crude, when we ſee it cleere, thin, vnequall, greene, yellow, bitter or pricking: contrarilie, if it be equall and euery where alike, and a little thicke, we iudge it to be concocted. We take ſome difference of rheumes from the taſte and ſauour which is in the humour, there are ſalte, ſweete, ſharpe, and taſtleſſe ſauours: the ſalt ones are alwaies moſt dangerous, for if they fall vpon the Lungs, they cauſe an vlcer; if among the

The ſignes of a hot rheume.

The third difference riſeth from the qualitie of the humour.

Signes of concocted, and vnconcocted rheumes.

The fourth difference riſeth from the taſte of the rheume.

guts, a bloodie fluxe: finally, we may drawe from the mixture of the humours, these differences. There are simple rheumes, caused of one onely humour, and there are others which are made of the mixture of many. And thus much concerning the particular viewe of the first difference, which is taken from the matter.

The second difference may be gathered from the parts: now we haue two sorts of parts to looke into, as the sending, and receiuing parts: those which send, are either within or without the braine. Those within are commonly full of excrements, both because of their colde distemperature, and also of their marrowish substance; those without also, as betwixt the scull and the membrane next couering it, and betwixt this inner membrane, and the vttermost skin may be retained and gathered in great quantitie of water, either by the vapours, which not being able to passe any further, doe there growe thicke, or by the breathing forth of wateriſh humours out of the veines and arteries, which there stay and abide. From these parts then we shall draw these differences of rheumes, there are outward ones which come from without, and runne downe by the continued proceeding of the membranes through all the outward parts, euen vnto the ioyntes, and make oftentimes the Goute: There are inward ones which come from within the braine, and runne diuerse waies to the inward partes. If they take the waie of the spinall marrowe, they will cause an Apoplexie, Palsey, astonishment, and trembling: if they passe and fall into the eyes and eares, they will cause blindenesse and deafenesse: if they fall into the nose, they will cause the disease, called Coryza: if into the palate and rough arterie, they will cause hoarcenesse; as also shortnesse of breath, the cough, the consumption, if into the Lunges; and the fluxe of the bellie, called *Lienteria*, if they fall into the stomacke. The second difference taken from the parts.

The third difference shall be taken from the accidents. There are rheumes which choake vp the parties, and kill them suddainely, and they are those which *Hippocrates* calleth ὀξυτόμους καὶ πολυτίτας, the other are without daunger, and distill but softly. There are rheumes without feauers, and there are some that are accompa- The third difference taken from the accidents.

nied with the feuer: there are ſome alſo that are painfull, and here are ſome without paine.

The laſt difference. The laſt difference is taken from the maner of their generation and the efficient cauſes. There are ſome rheumes that are of themſelues as being begotten of the ſole defect of the braine, all the reſt of the body being ſound; and there are ſome which come by conſent, as thoſe which are cauſed of the ill diſpoſition of the other parts: as of the liuer too much heated, and of the ſtomacke too much cooled; the liuer ouer hote doth ſend great quantitie of vapours vnto the braine, and the ſtomacke too much cooled doth fill all full of crudities. There are epidemike or popular rheumes, and there are erraticke or hereditarie ones: the popular rheumes happen of the conſtitution of the ayre, as was the whupping or crowing diſeaſe which happened this yeare, and that which ranne through all Europe about tenne yeares agoe. The erraticke or hereditarie rheumes come of a particular conſtitution of the bodie, and of the maner of liuing, which is particular vnto euery one.

Chap. IIII.

Of the cauſes of the Rheume.

THe cauſes of the rheume are either outward or inward: the outward doe ordinarily ariſe of the corruption of the ayre, and of the manner of life. The ayre may alter and change vs three maner of waies; by his qualities, by his ſubſtance, and by his ſudden alteration and chaunge: that which is too cold, too hot, and too moyſt, is apt to beget rheumes: the hot ayre doth it by reſoluing and melting ſuch humours as are contained in the braine, for thus it maketh them the more apt to fall downe: the colde ayre is the cauſe of diſtillations, becauſe it preſſeth the braine together: and euen as a ſpunge full of water being preſſed, wee may behold the water to run out like a riuer on euery ſide: euen ſo the braine being ſhrunke together by colde, letteth all her humours glide and ſlip away: the ſame cold ayre may alſo bee the cauſe of rheumes, by repelling and cauſing to retire the naturall heate from the vt-

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ter parts, to the inner. The Southerne and Northerne windes are mightie causes to moue and make rheumes: for those doe fill the braine and make it heauie, but these doe cause it to shrinke together. Long tariance in the Sun or open ayre doth effect as much. The sudden change of the ayre, and alteration of seasons are of the number of those causes which inforce the rheume. As also if the seasons doe keepe their naturall temper, as *Hippocrates* hath very well obserued in his third booke of Aphorismes, the yeare will greatly incline vnto rheumatikenes. If together with this partie alteration, or vtter ouerthrow of the temperature, there bee any particular defect in the substance of the ayre, as some secret and hidden corruption or infection, then it will ingender a popular and pestilent rheume.

The maner of liuing may likewise bee put in the scrole of outward causes, which doe ingender and beget the rheume: much eating and drinking doe likewise fill the braine, and this is the cause why drunkards and gluttonous feeders, are ordinarily subiect vnto the strangling rheume. Great abstinence may likewise cause rheumes in attenuating and making thin the humours; as also for that the stomacke being emptie, and not prouided of any thing to fill it selfe withall, is constrained to make attraction of such moysture as is in the parts neere about. Long watching, continuall studie, extreame violent passions of the minde, in as much as they spend and waste the naturall heate and coole the braine, doe ingender rheumes: to liue all idle, doth keepe the excrements vnconsumed. Great euacuations, but especiallie oft letting of blood, and in great quantitie, do cast headlong the body into old age, and make it altogether rheumatike. Much sleepe puffeth vp the bodie and maketh it moyst, especially that which is taken at noonetide. And thus much for the outward causes which may cause and mooue the rheume: let vs now come vnto the inward.

The inward causes are either remote, or else conioyned: the remote (which it pleaseth some better to call Antecedents) haue relation to the euill disposition of the braine, head, liuer, stomacke, and sometimes of the whole bodie. The cold, moyst and hot distemperature of the braine doe oftentimes cause rheumes, the cold and

The distemperature of the braine causeth rheumes.

and moyſt of their owne nature, the hot by way of accident: the cold diſtemperature weakeneth naturall heate, doth not make good diſgeſtion of nouriſhment, neither yet ſpend and waſte vnneceſſary ſuperfluities: whereupon it followeth, that it muſt needs ſtore vp abundance of excrements. The hot diſtemperature attracteth more nouriſhment then it can well diſgeſt, and moe vapours then it can diſpatch and make away withall. There are ſome which haue very wittily obſerued, that the cloſenes of the ſubſtance of the braine, is oftentimes the cauſe of rheumes, becauſe it retaineth the vapours, and ſuffereth them not to ſpend by breathing out and euaporation. The bad forme or ſhape of the head is likewiſe very forcible to procure rheumes: for ſuch as haue the ſeames of their head very cloſe ſet together, or which haue not any at all, (as wee haue ſeene very many) are ſubiect to diſtillations, becauſe the vapours retained doe turne into water, and indeede the ſeames were chiefly made to ſerue for a vent, and as it were a chimney vnto the braine.

The euil ſhape of the head.

The diſtemperature of the lower parts, and eſpecially of the liuer and ſtomacke, is one of the moſt ordinarie cauſes of the rheume, if wee beleeue *Auicen* the prince of the Arabians. For from the liuer, being exceſſiuely hot, doe come as it were from a great burning cole many hot exhalations, which by the cold temperature of the braine doe congeale and turne into water: I ſay further, that they which haue a very hot liuer, haue alſo their veines very hot, in ſuch ſort as that there riſe continually very hot vapours from them. The cold diſtemperature of the ſtomacke ingendring many crudities, may alſo be a cauſe of rheumes: for thereby al the bodie is cooled, the ſecond diſgeſtion not being able to correct the errour of the firſt. But if it ſhould ſo bee as that all the cauſes ſhould concur and iumpe together, that is to ſay, that the braine ſhould bee cold and moyſt, the liuer hot, the ſtomacke cold, there were no doubt, but that thereupon would follow a perpetuall generation of excrements in the braine: and this is that which the Arabians would haue ſayd, when they wrote that an vnequall diſtemperature of the principall parts is the greateſt occaſion of diſtillations. And thus much concerning the remote cauſes. The more neere or antecedent cauſes not onely of rheumes, but

The diſtemperature of the lower parts.

of

of all other fluxes of humours are three; the part ſending, the part receiuing, and the nature of the humour. In the part ſending wee obſerue his high ſituation, and his ſtrength: if it bee indued with theſe two qualities, it will eaſily caſt his burthen vpon all the inferiour parts, which are as it were vaſſals vnto it. *Hippocrates* hath well obſerued it in the booke of the wounds of the head, when he ſayth, that amongſt all the parts of the head, the brow is moſt ſubiect vnto inflammation, becauſe the brow is contained, but euery fluxe is from the part containing vnto the part contained: the brow is contained both in reſpect of the low ſituation thereof, as alſo in reſpect of the production of veſſels. The part receiueth the humour, either becauſe it is inferiour, or becauſe it is weake, or becauſe it draweth it vnto it. Euery inferiour part is ſubiect to receiue the burthen, of that which commandeth it: but and if the part be weake, it will yet be the more apt. This weakenes commeth either of it ſelfe, and from the proper nature of the part, or elſe by ſome accident: the rare and ſpungie parts are naturallie weake, ſuch as are all the glandules, and it ſeemeth that nature of ſet purpoſe hath made them ſuch, to the end that they ſhould receiue the excrements and ſuperfluities of the principall parts. *Hippocrates* hath debated this matter ſo well in his booke of Glandules, as that a man cannot tel how to adde any thing therevnto. The skin was by nature made weak, to the end it might containe al the ſuperfluities that are frō within, whereupon ſome call it the vniuerſall emunctorie. Parts may alſo be weak by ſome accident, as by a fall, or blow, or ſome diſtēperature: in what maner ſoeuer they bee weake, it maketh them apt to receiue the refuſe of their neighbour parts. The laſt cauſe is the part his attraction of the humour. The Arabians haue acknowledged three cauſes of this attraction; heate, paine, and the auoyding of vacuitie. Heate attracteth of it owne nature, becauſe it rarifieth the parts neere about, attenuateth and maketh thin the humours, and enlargeth the waies and paſſages, for the humour to runne through. Paine doth not attract of his owne nature, becauſe it is an affect of feeling: but feeling is a patient and no agent, and euery one of the ſences is executed by taking in of ſome thing: but the humours flow to the pained part, by reaſon of the weakenes of the ſame;

The cauſes more neerely procuring rheumes are three.

The part ſending.

The part receiuing.

The weake part.

How the part attracteth the humour to it ſelfe.

How paine attracteth.

as alſo becauſe the naturall heat thereof is weakened by the paine and cannot well concoct the humour, it muſt needes bee that it ſhould ſtay in that place. They who affirme that the humour floweth vnto the part which feeleth the paine, becauſe nature ſendeth thither both ſpirits and blood, that ſhe may comfort the ſame, doe deceiue themſelues in my iudgement, and offer great wrong vnto nature: for if ſhe knew that ſuch a part ſtood in need of ſpirits and blood, ſhe would know therewithall, that in ſending this blood, ſhe ſhould profit the part nothing at all, but rather hurt it: ſo that paine doth not properly attract and draw. The laſt cauſe of diſtillations is imputed to the humour. For if it bee thin in ſubſtance, hot in temperature, ſharpe and pricking in qualitie, it will be a great deale the more apt to flow.

Chap. V.

A generall order of diet to be obſerued, for the preuenting and curing of Rheumes and diſtillations.

I Will follow the ſame order and courſe in the laying downe of this regiment, which I haue taken in the other two going before. Wee muſt therefore ſo diſpoſe of all the ſixe things which are called not naturall, as that they may not only hinder the engendring of rheumes, but alſo conſume and cure the ſame being alreadie begotten. Let euery man therefore make choiſe for himſelfe of ſuch an ayre as is temperate in his actiue qualities, and as for the paſſiue that it bee altogether drie: I ſay that it muſt be temperate in heate and cold, becauſe that a hot ayre reſoluing the humours of the braine, and a cold preſſing them out, cauſeth them to fall downe aboundantly. If the ayre bee too cold, it may bee corrected with good fires made of Iuniper, Roſemarie, Bay-tree, Oke, and Fig-tree: if it be exceeding hote, it may be cooled with hearbs and flowers that are indued with ſuch propertie. There muſt care be had to auoide the Northerne and Southerne windes, becauſe the one filleth the head full, and the other preſſeth it out. You muſt not abide much in the Sunne-beames,

nor

nor yet in the open ayre. The windes which pearce through chinkes and rifts, are extreamely dangerous for the rheume. The inequalitie of the ayre (as *Celsus* obserueth very well) doth mightily further the begetting of rheumes: it is called an vnequal aire, when it is now hot, now cold. As concerning the passiue qualities, the ayre must in all maner of distillation incline vnto drines: and for that cause it is good to dwell vpon mounted places, and such as are farre from riuers.

In meates three things are to be obserued; the quantitie, qualitie, and manner of vsing them. As concerning the quantitie, all repletion and full gorging is enemie to such complexions as are subiect vnto rheumes: we may not at any time eate to the full, it is better to rise from the table hungrie, and hee cannot but fare the better, which cutteth of one meale in a weeke. As concerning the qualitie, it must bee contrary vnto the disease, or the cause thereof: the cause of rheumes is a superfluous humour, so that it will bee fittest to vse such meates as may dry vp the same. All vaporous meates in generall must bee abstained, as also meates that are grosse, windie, full of excrements, and hard to disgest. In the maner of vsing of these meates, there must many rules bee obserued: as, there must no new meate bee taken into the stomacke, before the former bee throughly disgested. You must content your selfe to feede vpon one onely dish, and that such as is good: for varietie filleth all full of cruditie, and it mingleth it selfe with the blood in the veines, and ministreth rheumatike matter vnto the braine. You must vse to eate more at dinner then at supper, in as much as sleepe which succeedeth supper within a short time, doth send great store of vapours vnto the braine, which are afterwards turned into water. In meats three things are to be obserued.

The bread must bee of good wheate, and throughly baked, not cleane purged from his branne, but retaining a little branne and mixt with some salt; it must neuer be eaten hot: at the latter end of meate you may eate bisket, wherein some Anise and Fennell seede haue been put. Bread.

Rosted meates are much better then boyled, and of them such as doe not abound with humours: we allow the vse of Capon, Pi- Flesh.

geon, Partridge, young Hare, Kid, Hart, Feasant, Quailes, Turtle doues, and all birds of the mountaines, all which may be interlarded with Sage and Hissope of the mountaines. The vse of water-fowles, Porke, Lambe, Mutton, and young Veale is forbidden: broths and pottage are very ill.

Fish. Fish is exceedingly contrary. All sort of milk-meates is an enemie in rheumatike diseases, as also all maner of pulse.

Hearbes. As concerning hearbes, the Arabians recommend vnto vs, Sage, Hissope, Mints, wilde Time, Margerome, Rosemary, Burnet, Cheruill, Fennell, and Costmarie. *Aetius* tolerateth Coleworts and Leekes, but he forbiddeth in expresse tearmes Garlick & Onions; (because they send vp many vapours) and all cold moyst hearbes, as Lettuse, Purcelane, Sorrell, and such like.

Fruites. All fruites that abound in moysture, as Apples, Plums, Melons, Cucumbers, and Mulberies are forbidden. But as for such as haue propertie to drie, as Pine apples, small nuts, Pistaces, Almonds, Peares, Quinces, Figs, drie Raisines, Medlers, Cerusses, they may be vsed after meate. And thus much concerning meate.

Drinke. As concerning drinke, cold water, and all maner of licour that is actually cold, it is enemie to al such as are subiect to the rheume, if so bee that such rheume be not extreame hot, pricking, and accompanied with an ague; Barley water with a little Sugar and Cinamome is very good and fit, or a Ptisane, or water and Honey boyled together.

Wine. If the stomack cannot indure the vse of these waters, you must make choise of some well conditioned Wine, which is small and neither sweete nor biting. Muscadels, Hypocras, and such like mightie and strong Wines, doe altogether strike vp into the head, and fill the braine with vapours. To drinke assoone as a man is set downe at the table, doth cause and increase the rheume mightily: and there is nothing so daungerous to them which are troubled with the rheume, as to drinke when they goe to bed.

Sleepe. Excesse of sleepe maketh the bodie heauie, and heapeth together store of excrements: it shall bee sufficient to sleepe sixe or seuen houres, and in the meane time the head and the feete must be kept couered: for as *Aristotle* obserueth, cold taken in the vtter-

most

most parts doth infinitly indamage them which haue a cold and moyst braine. In sleeping it is good to lye with the head somewhat high, and vpon the sides: for to sleepe vpon the backe heateth the bodie of the great hollow veine, which lieth vpon the backbone, and sendeth great quantity of vapours vnto the braine. Let euery man watch well ouer himselfe, that he vse no sleepe at noone, neither yet by and by after meate; it will be more healthfull to bestow the time in some short or gentle walke, or in some pleasant and religious talke. You must not straightwaies after meate applie your selfe to reading or writing, or any deepe meditation, because such action might turne the course of naturall heat out of the way, which ought altogether to be imployed in making disgestion.

Long watching may hurt as much as ouer much sleepe, for that it spendeth naturall heate, and cooleth the braine. It is good to rise early, and walking vp and downe the chamber, to cough, spet, and free ones selfe of all naturall excrements. Watching.

The exercises of the whole bodie are much commended of *Hippocrates* that famous Phisition, and those which are of particular parts, as frictions will serue for good vse: but if the head bee weake and very replete, it will require that such friction be begun in the lower parts, and from thence to come vnto the thighes, backe, armes and necke, and to rubbe the hinder part of the head with bags or spunges artificially contained and made. And seeing the head is the fountaine of all distillations, it will be meete and conuenient to haue a speciall regard and consideration thereof: it must not be ouerladen, neither yet too sleightly couered, but after a meane and middle maner, and yet it is alwaies better to indure too much heat then too much cold vpon it: it is not good to tye it too hard, least it might draw humours from below. The bellie must be kept soluble continually. Exercise. Frictions.

Chap. VI.

A generall methode for the curing of Rheumes.

For as much as in all distillations there is a part sending, and another receiuing; the Phisition must haue speciall consideration

ration vnto them both. The head is the welſpring and fountayne of all diſtillations: wherefore we muſt beſtow one part of our labour and trauell to purge the head, and to drie and ſtrengthen it, that it may not gather any new excrements or ſuperfluities. I will appoynt and ſet downe an order to be vſed in colde diſtillations, comming of a colde and moiſt diſtemperature of the braine, becauſe that thoſe are moſt incident, and this method may ſerue for a rule vnto the other ſorts.

The firſt intention.

The firſt intention which we are to propound and ſet before our ſelues, is to purge this welſpring, to draine it, and vtterly to drie it vp if we can. This will be effected and wrought by vniuerſall and particular euacuations: the vniuerſall muſt alwaies be firſt vſed. If it be a full bodie, a hot rheume, an ague accompanying the ſame, and that the liuer be exceedingly hot, blood letting will profit very much, but if no one of theſe particulars fall out, then it hath no place, and profiteth nothing, and this is it which the Arabian writers meane when they ſay, that the rheume meerely conſidered as a rheume, doth neuer require bloodletting, but onely when it is accompanied with ſome accident. Wee will come therefore to the maner of purging, which muſt firſt begin with a Cliſter which will purge the whole bodie, and draw alſo from the head.

Blood-letting.

Purging.

A Clyſter.

Take of the common decoction (whereunto hath been added Margerom, Hiſſope, Sage, of each a handfull) the quantitie of a pinte, of Anniſe ſeede three drams, of the flowers of Camomile, Stechados, and Roſemarie, of each halfe a handfull, after you haue ſtrained the whole, diſſolue therein of the bleſſed Laxatiue one ounce, of Diaphenicon an ounce, of the honie of Roſemarie flowers or Mercurie one ounce, of oyle of Dill two ounces, of ſalte a little, and make hereof a Clyſter.

Benedicta Laxatiua.

Pils.

A potion.

The daye following, you ſhall take a dram of Pillulæ Cochiæ, which ſhall ſerue in ſteede of a minoratiue, or elſe this potion. Take of good Agaricke one dramme, of Rubarbe as much, infuſe them all one night with a little Cinamom and a few Cloues, in the water of Hiſope or Minthes: and after you haue preſſed it out, diſſolue therein of Diaphenicon, or elſe of Diacarthamum, two drams,

drams, and of syrupe of Roses laxatiue, one ounce, make thereof a potion.

If the humours bee colde, grosse and slimie, it will bee good to prepare them with this Apozeme. Take of the rootes of Acorus, of Cyperus, and of Galanga, of each halfe an ounce, of the leaues of Betonie, Hissope, Margerome, Sage, Balme, Agrimonie, of each a handfull of Anise and Fennell seede of each three drams, of the flowers of Rosemarie, Stechados, and Betonie, of each a pugill, boyle all together to a pinte and a halfe, wherein dissolue of the honie of Rosemarie flowers, or of course Sugar, three ounces, and make thereof an Apozeme, clarifie it and aromatise it with a dram of Aromaticum Cariophillatum, and with a little Cinamom, to take foure mornings together. After this, the bodie shall be purged again with ỹ same pils, or with the pils of Agaricke, *Sine quibus*, or *Pillulæ fœtidæ*, and the same potion, but in somewhat greater quantitie. The Arabians make a prettie obseruation about pils, as that they must be somewhat great, that so they may abide the longer time in the stomacke, and so not being so soone dissolued, may draw from further of. And thus much concerning purgations vsually to be taken in such rheumes.

Preparation of the humours.

An Apozeme.

Dyet drinkes that doe prouoke sweate, may be put in the number of vniuersall euacuations, for they auoide all the wateriſh parts which are conteined in the veines, and drie vp the superfluous moisture which is within the bowels. We shall make them with Guaiacum, Zarza-perilla, the roote China, and Sassafras, the maner of the setting downe of such, as also of the vsing of them is sufficiently knowne vnto euery one. The bodie hauing been purged by these vniuersall meanes, there may bee vsed particular purges for the braine. The euacuation may be sensible or manifest to the sences, or insensible, and such as the sences cannot discerne: the sensible euacuation is effected by errhines, masticatories, gargarismes, vesicatories, sinapismes, cuppings, scarifications and cauteries, the insensible, by powders, bags, cupping without scarification, and perfumes. Errhines doe purge the braine by the nose: there are diuerse sorts made of them, as some are drie, and some liquide: the drie are made with powders of pepper, the seede of Staue sacre, and white Hellebor: the liquid ones with the iuyce of Marge-

Decoctions procuring sweate.

Errhines.

Margerome, Mercurie, Male Pimpernell, Beetes, and Coleworts, with white wine, there are ſome which greatly commend the oyle of nigella, if the noſtrels be annoynted therewith within. Maſticatories doe purge the head very ſtrongly, and they are made with the rootes of Pellitorie, or with Maſticke, Nutmeg, Cubebs, Damaske raiſins, ſteeped in the water of Sage, or in the eſſence of Sage and Time. Gargariſmes are not in ſo great vſe. Veſicatories applied vpon the head, doe alſo purge the ſame ſenſiblie: they are made with very ſtrong leauen, dung of Pigeons, the flies called Cantharides, and a little Aqua vitæ: you may likewiſe make emplaſters which will draw forth water, with the rootes of Brionie, of Tapſia, Muſtard ſeede and Euphorbium. Bread very hot applied vpon the head and nape of the necke, with a little Aqua vitæ, doth draw it ſelfe all full of wateriſh excrements. Cupping glaſſes with ſcarification, will ſerue to make euacuation in this caſe. Finally, in rheumes that are olde and rebellious, cauteries doe profite very much, to drawe drie the fountaine, and to diuert the humour: they are to be applied vpon the head, behinde in the necke, and in the armes. There is another inſenſible euacuation, which is then wrought, when any humour is diſcuſſed and reſolued in ſuch ſorte as that it turneth into a vapour, and thereupon doth breath out by an inſenſible tranſpiration: the ſame may be done by bags, powder and perfume. Take of Millet, and Otes a good handfull, of bran and ſalt one ounce: frie all theſe together, and cloſe them vp in a bag, which you ſhall lay very hot vpon the coronall ſuture; or elſe: Take of Anniſe ſeede, Fennell ſeede, and Bay berries, of each two ounces, of Millet foure ounces, and as much of common ſalt, of the crops of Dill, of Camomile and Roſemarie flowers, of each a handfull, frie all theſe, and put them vp in bags, to be applied vpon the head. Perfumes that draw out and reſolue, are thus made: Take of Storax, Beniouin, and of Nigella Romana, of euery one three drams, of cloues, and of the trocisks of Gallia Moſcata, of each one dram, make thereof a perfume, and perfume the head cloathes therewith. Or elſe take of incenſe, Ladanum, Beniouin, of each three drams, of gumme Hedera, of Iuniper berries, and Coriander prepared, of each two drams: mixe all theſe, and make thereof a perfume. By all theſe helpes,

Maſticatories.

Veſicatories.

Emplaiſters.

Hote bread.

Cupping-glaſſes.

Cauteries.

Inſenſible euacuation.

Bags.

Perfumes.

helpes, we may accompliſh our firſt ſcope and intention, which is to clenſe the braine, and draine the fountaine of rheumes.

Our ſecond ſcope and driſt muſt be to ſtrengthen the braine, and take away the cold & moiſt diſtemperature, which cauſeth a continuall ingendring of excrements and turneth all into water: for in vaine ſhall we drie vp this ſpring, except we take away all means, whereby it may fill vp againe, and for the effecting hereof we may vſe inward and outward remedies. The inward are Opiates, Lozinges, and powders; Treacle and Mithridate are very ſingular good, as alſo the conſerues of Betonie, Roſemarie, and Stechados. Take of the conſerues of Roſemary, Stechados, and Betonie, of each one ounce, of old Treacle two drammes, of the powder of *Aromaticum Roſatum*, and *Diagalanga*, of ech one dram; make thereof an Opiate with ſyrupe of Stechados, taking thereof to the quantitie of a ſmall nut at night when you goe to bed, you ſhall make lozinges to ỹ ſame effect after this maner. Take of the powder of *Aromaticum Cariophillatũ* one dram, of *Diagalanga* halfe a dram, of Nutmeg a ſcruple, of Sugar diſſolued in the water of Betonie or Balm ſo much as ſhall neede, make thereof an electuarie in lozenges, euery one weighing three drams, of theſe you muſt take one in the morning two howers before dinner, and another at night one hower before ſupper. A digeſtiue powder after meat will ſerue to ſtrengthen the braine and ſtomacke. Take two drammes of Aniſe ſeede confected, of Cinamome two drammes of Nutmegs one dramme, of red Corall two ſcruples, of Pearles prepared, and Harts horne, of each one ſcruple, of roſed Sugar and white Sugar, of each foure ounces; make thereof a powder, of which you ſhall take a ſpooneful after euery meale: if you make it for them that are rich, you ſhall adde therto a little Amber griſe. *Aqua cœleſtis*, *Theriacalis*, and *Imperialis* are very good to drie and ſtrengthen the braine and eſpecially in old folke, and ſuch as are of a cold diſtemperature.

The ſecond ſcope is to fortifie and ſtrengthen the braine.

Inward remedies.

An Opiate.

Lozenges.

A digeſtiue powder.

The outward remedies which doe ſtrengthen the braine are head powders, which ſhall be caſt all ouer the head, or elſe you ſhall make caps thereof. Take of Cloues, Maces, and Ziloaloe, of each two drams, of red Roſes, & Betonie well dried, of each three drams: make it into a powder, which you ſhall ordinarily ſcatter

Outward remedies.

A head powder.

Bonnets or coifes.

ouer all the head: or elſe make a little cap after this faſhion: Take the leaues of Betonie, Balme, Margerome and Mints well dryed, of each three drams, of Cloues, Mace, Nutmeg, of each one dram, of red Roſes and Roſemarie flowers a dramme and a halfe, of Dyers graine, and of Ziloaloe, of each a dram: make them into a powder, and mingle them with Cotton wooll, to make a little quilted cap thereof with red Taffata. Alſo you may make emplaſters to applie all ouer the head, which may ſtrengthen and drie it very much: Take of *Laudanum* and Maſtick that are very pure and cleere, of each halfe an ounce, of Incenſe and Sandaraca, of each three drams, of the rootes of Cyperus, of Cloues, and of Ireos of Florence, of each halfe a dramme, of the flowers of Sage, Roſemarie, and red Roſes, of each halfe a dram, of Cubebs two ſcruples, mixe all this with oyle of Ireos and a little Turpentine, and make thereof a plaiſter. There hath beene brought vs certaine yeeres ſince, a very excellent Gumme called *Tacamahaca:* it is applied vpon the head, in forme of an emplaſter, it ſtrengtheneth the braine, ſtayeth all rheumes, and hath ſuch propertie to appeaſe and take away paynes, as that the Indians vſe it in all maner of aches, if it fall not out that there be ſome inflammation manifeſt and apparent. I my ſelfe haue ſeene very notable ſucceſſe in the vſe thereof. All the ancient practicioners do greatly praiſe for the drying and ſtrengthening of the braine the Lotions of the head that are made with hearbes appropriate for the head, as Betonie, Balme, Margerome, Lauander, flowers of Stechados and Roſemarie. There may be made a very good ſope and fit for the purpoſe, after this faſhion. Take of good Sope three ounces, of Agarick three drams, of Ireos of Florence two drams, of Cloues and Mace, of each one dram; make them into a Sope. Naturall bathes of ſweete water as they are called, are much commended, becauſe they be actually hot and ſulphurous, as are thoſe of *Balaruc*, which are foure leagues from *Mompelier*. Some there be which put certaine drops of the oyle of Turpentine euery night in the eares and ſtop them afterward with musked or ſweete Cotton wooll: and aſſure themſelues that this drieth and ſtrengtheneth the braine mightily. All theſe remedies will ſerue in cold rheumes, and in ſuch as haue the braine colde and moyſt. If the

An emplaiſter to ſtrengthen the braine.

Lotions for the head.

A ſope for the purpoſe.

Natural baths.

Oiles to bee put in the eares.

rheume

rheume be hot, and the braine hot, the Phisition shall be of iudgement able to alter the remedies, and to appropriate them to the distemperature. Loe here the two seuerall intentions, which respect the member sending, and leade vs first to the drawing of it drie, and afterward to the strengthening of it, for feare it should ingender new and fresh matter.

We must now aduise what is to be done vnto the member receiuing. Euery inferiour and infirme member is apt to receiue, but yet the care to be had of it is greater or lesser, according as the part is more or lesse excellent and seruing our necessitie: if the rheume fall vpon the eyes, I haue alreadie set downe the remedies: if vpon the nose, it must be turned some other way: if vpon the teeth, you shall see in the chapter following how they are to be preserued: if vpon the stomacke, it may be cast out by the belly. The most dangerous of all is that which taketh his course vnto the rough arterie, and falleth suddenly into the breast or lungs, for it hindreth respiration, which is a most necessarie action, and so stifleth the partie. Such must be cared for and helped with all speed, and that by vsing all those remedies which I haue set down, to euacuate, diuert, and turne away this motion of humours: but if it should fall out to be too swift, we shall be constrained to cut it short with remedies that shall be held in the mouth, and which one may swallow downe, beginning with the sleightest, as Bole Armoniake, Terra Sigillata, Gumme Tragacanth, conserue of old Roses and rosed Sugar, of which there may bee made pretie receipts. Take of the conserue of old Roses a dram and a halfe, of the powder of Gumme Tragacanth a dram, of Terra Sigillata, and Bole Armoniake orientall, of each two scruples, of Sugar dissolued in the infusion of Gumme Tragacanth, so much as needeth: make thereof pretie small pellets. If this will not serue them, we must come to the remedies which are stronger, as Diacodium, new Treacle, *Pillulæ de Cynogloſſa*, or else those which are described of the old writers, and are made of Styrax, Galbanum, Opium and Mirrh in equall portions. These remedies are not to bee appointed, but in extreame necessitie, and when the present and sudden stifling of the partie is feared.

When wee must stop the rheume.

Little Lozenges.

The rheume may also be stayed with outward meanes, as par-

Outward remedies staying the rheume.

fumes and emplaiſters. Take of red Roſes, and of Coriander ſeed prepared, of each a dramme and a halfe; of Maſtick, Sandaraca, and Gumme Hedera, of each a ſcruple; of the ſeede of Poppie halfe a ſcruple, of Mirtle berries halfe a dram: make them in a powder to parfume the head, and the ſame fume may alſo be taken either at the mouth or noſe. The gum Tacamahaca (whereof I haue ſpoken ſomewhat before) is very good to ſtay vp the rheume, and to cauſe it to ceaſe ſuddenly. The rheume being ſomewhat ſtayed, wee muſt cleriſe out that which is fallen into the breaſt, and euacuate it by the remedies vſuall for the cough. I will not ſet downe any particular remedies in this place, for as much as I teach the generall methode onely, which may ſerue for the curing of rheumes.

CHAP. VII.

The meanes to preſerue the Teeth.

FOr as much as rheumes doe oftentimes fall downe vpon the teeth, and ſpoyle them very mightily, I am perſwaded that I ſhall not diſpleaſe the Ladies and Gentlewomen, if I deliuer in a ſmall chapter the meanes to preſerue the ſame. To haue faire and ſound teeth, it behoueth that they ſhould be white, ſmooth, hard, ſtanding faſt, and that the fleſh of the gummes be whole, hard, and well truſſed vp. I purpoſe firſt to ſhew and make knowne that which may looſen, blacke, or canker them: and after I will deſcribe the remedies which are moſt exquiſite, and may beſt ſerue for the making of them faire. The cold ayre, as *Hippocrates* obſerueth in the fift booke of his Aphoriſmes, is enemie to the teeth. All raw, ſlimie, ſweete, ſharpe, fat, hard, vaporous meates, and ſuch as are actually cold, doe hurt the teeth infinitly. The raw meates doe ſend vp very many vapours which canker them, and make them blacke: ſweete, ſlimie, and fat meate doe leaue much filth about them: ſharpe meates ſet them on edge, and cauſe a numnes in them, by reaſon of their roughnes and vneuenes: hard meates doe ſhake them very much. It behoueth to vſe fleſh of good

Wherein conſiſteth the fairenes of the teeth.

What may happen to the teeth.

The ayre.

Meates.

good iuyce, and which is disgested easily: for who so will keepe their teeth faire, must aboue all other things take care of their stomacke. The common vse of milke, cheese, paste meates, tarts and pulse doe destroy the teeth: Sugar amongst other things doth make them blacke. It is not good to chaw the meate vpon one side onely, but rather on both sides equally, because the teeth that are not vsed will corrupt. All flesh of Lambe and Swine, and all fried meates, are extreamely contrary vnto them, as also the ordinary vse of fruits which are very moyst. All writers haue marked that Leekes doe wholy spoyle both teeth and gummes.

Wine must be well delayed before it bee drunke, and it must not bee sweete, nor very cold. Very hote broths, as also all other meate exceeding hot doe spoyle them. There is care to bee had in keeping of them very cleane after eating: and therefore the tooth-pickes of Masticke tree, Mulberie tree, Rosemary, Cipers, and other woods which haue some binding facultie are very fit: there may be added vnto the former a little of the wood of Aloes: They must not bee made cleane with a knife, pinne, or with any thing of gold or siluer, as many doe, because that it doth loosen the ligaments. It must also be auoyded to lie digging at them any long time, especially of such as are subiect to distillations. After that the teeth are thus picked and cleansed, they may bee washed with wine delayed. The continuall and common vse of Sublimatum, doth blacke and spoyle the teeth very mightily: but and if you would preuent that it should doe no harme, it must first bee well prepared, and afterward neuer to vse it, but when it hath been steept in water three or foure moneths, chaunging the water the first moneth euery day, and once or twice a weeke in the rest: it must also neuer bee vsed about the face, but the mouth must first be washed and the teeth cleansed, and water kept in the mouth. And thus much for the things which may hurt the teeth.

Wine.

Sublimate hurteth them.

To vse sublimate so as that it may not hurt the teeth.

Let vs now see what things are good and profitable for them. There are some that haue their teeth very white, but they are not fast, because that either the ligaments are loosened, or for that the gummes haue lost part of their fleshie substance: other some haue their teeth fast, but they be blacke. Wherefore there are two sorts of remedies to bee prouided: the one to blanch and make white

the teeth: the other to faſten them and incarnate. There are an infinite number of thoſe which doe make white the teeth, but I will chuſe the moſt fit and conuenient. The Greeke Phiſitions commend the pumnice ſtone burnt and made in powder, more then any other thing, and their ordinarie remedie is this. Take of pummice ſtone and burned ſalt, of each three drammes; of *Iuncus Odoratus* two drams, of Pepper a dram and a halfe: make them all in powder, and therewith rub the teeth. We ſhall make a powder which in my opinion will be very fit. Take of pure Chriſtall a dram and a halfe, of white and red Corall of each one dram, of pummice ſtone and cuttle bone, of each two ſcruples, of very white Marble, of the roote of Florentine Ireos, of Cinamome and Dyers graine, of each halfe a dram, of common ſalt one dram, of Pearle well prepared a ſcruple, of Alablaſter and Roch Alome of each halfe a dram, of good Muske tenne graines: make them all into very fine powder, and rub the teeth therwith euery morning, waſhing them afterward with white wine. With the very ſame powder there may be made Opiates, putting thereunto ſome honie. The ſpirit of Vitrioll mixt with a little common water, doth white the teeth marueilouſly, and is one of the rareſt and moſt ſingular medicines that is. There are ſome which do much eſteeme *Aqua fortis* well delayed with common water. There may alſo a water be diſtilled, which wil make them white. Take of liue Brimſtone, Alome, Sal Gemma, of each a pound; of Vineger foure ounces: others vſe the ſpirit of Vitrioll in ſtead of Vineger; diſtil hereof a water with a retort, vſing a gentle fire, that ſo it may not ſmel of the Brimſtone. This water doth make the teeth very white, and cleanſeth rotten gummes. If the teeth be very blacke and filthie: Take of Barlie meale and common Salt two ounces, mixe them with Honey and make a paſte, which ſhall be wrapped in paper and dried in an ouen: you ſhal take of this powder three drams, of Crab-ſhels burned, pummice ſtone, egge ſhels in powder, and Alome, of each two drams; of the rinde of drie Citrons one dram: they ſhall all bee mixed together, and the teeth rubd therewithall. The rootes of Holihocks well prepared, doe mightily cleanſe and whiten the teeth. The way to prepare them is in this ſort: Take the rootes of Holihocke being made cleane, and cut them in many long

Things to make the teeth white.

A powder.

A diſtilled water.

A powder.

The prepared rootes of Holihocks.

long peeces, boyle them in water with Salt, Alome, and a little of Florentine Ireos: afterwards drie them well in an ouen, or in the Sunne, and rubbe the teeth therewith. If the teeth be not fast but shake to and fro: Take of the rootes of Bistort and Cinquefoyle, of each one ounce, of the rootes of Cypers two drams, of red Roses, the rootes of white Thistle, and of the leaues or bark of Mastick tree, of each halfe an ounce, of Sumach two drams, and of Cloues a dram: boyle al these in Smithes water and red wine, wash therewith your gummes, putting thereto a little Alome. Or else: Take red Corall, Harts horne and Alome, of each a dram and a halfe, of Sumach, and of the rootes of white Thistle of each a dram: make them in powder, which you shall mixe with the iuyce or wine of Quinces, and apply them vpon the gummes and to the rootes of the teeth in the forme of an oyntment. If the teeth be bare and without flesh, they must bee couered by causing flesh to grow againe with such remedies as followe. There shall be made a powder, with Alome, red Corall, gumme and rinde of the Frankincense tree, with a little Ireos and Aristolochie. Or else take plume Alome, Pomegranat flowers and Sumach, of each two drammes, of Aloes wood, of Cyperus, of Mirrhe and Masticke, of each a dram: make thereof a powder. Opiates also are very fit to beget flesh, and doe abide better vpon the place. Take of Roch Alome halfe an ounce, of Dragons blood three drammes, of Mirrhe two drams and a halfe, of Cinamome and Masticke of each a dram: make them all into very fine powder, and with a sufficient quantitie of Honey make an Opiate, which you shall apply at euening vpon your gummes, and there let it remaine all night: the next day morning you shal wash them with some astringent decoction or red wine. There bee some that take a corne of Salt euery morning in their mouth, and letting it melt, doe rubbe the teeth with their very tongue, holding that this doth white and make fast the teeth, hindring and keeping corruption and putrefaction from the teeth. And thus much for the preseruation of the teeth.

To fasten the teeth that shake and are loose.

To beget flesh about the teeth.

An Opiate.

THE

THE FOVRTH DISCOVRSE, WHEREIN IS INTREATED OF old age, and how we must succour and relieue it.

CHAP. I.

That a man cannot alwaies continue in one state, and that it is necessarie that he should grow old.

How euery thing that is mutt haue an end.

THis is a generall and solemne decree, published throughout the world, and pronounced by Nature her selfe, that whatsoeuer hath a beginning (so that it consist of matter) must also haue an end: There is nothing vnder the cope of heauen (except the soule of man) which is not subiect to change and corruption. All the great and famous Philosophers and Phisitions that euer were, haue without any contradiction put to their hands to this writ of arrest. *Hippocrates* in his first booke of diet, *Aristotle* in a little booke which he made of the length and shortnes of our life, and *Galen* in his first booke of health haue giuen so cleere and apparant reasons for the same, that there is no way to withstand or gainsay it: adde hereunto, that experience doth so farre confirme vs, as that hee which should doubt should be holden for a foole, and one bereft of vnderstanding. Wee celebrate day after day the funerals of our ancestors. Euery houre doe we grieue and stand astonished at the consideratiõ of the losse of so many great personages: and of all whatsoeuer hath been since the creation of the world, there is nothing remaining but that which the memorie of historie hath reserued to succeeding ages. It is not my purpose here

here to sift out by peece meale all the causes which may alter and corrupt naturall bodies, I haue nothing to doe with the transmutation of the elements, the corrupting of metall, the dying and growing olde of plants: I will onely make euident that which may alter our bodies, and whatsoeuer may cause them to waxe olde. My reasons shall bee drawne from the liuing and cleare springs of naturall Philosophie.

The causes of our dissolution are either inward, or outward: the inward are borne with vs, abide with vs dailie, and accompanie vs euen to the graue. The outward doe spring and rise from without, compasse vs round on euery side, and though a man may keepe himselfe from some few, yet there are an infinite number besides, which cannot be auoyded. Those which are borne and bred with vs are two, the contrarietie of the elements, whereof our bodies are framed, and the working of our naturall heate. The elements accompanied with their foure contrarie qualities (which are heate, colde, moisture and drines) the better to mixe and vnite themselues together, doe make a kinde of league, euery one of them willingly forgoing some of his right and soueraigntie, and thereby reducing themselues vnto a mediocritie, which is called temperature; but this bond of vnitie doth not long last, for the qualitie which doth ouer rule, and giue the name vnto the temperature, beginneth the discord, setteth vpon his contrarie which is more weake, and ceaseth not to impugne it, vntill it see the vtter ruine and ouerthrow of the same: this is one of the vnauoidable causes of our death, and that which we bring with vs from our mothers wombe; for there is not one bodie in the whole world to be found of so equall a mixture, as that there is not some excesse in one of the foure qualities ouer and aboue the rest. That temperature which the olde writers haue described and called *ad pondus*, is onely imaginarie, not seruing for any other thing then to iudge of the rest by, seeing it is not any more to be found, then *Plato* his common wealth, or *Tullie* his perfect Orator. This iarre therefore which is found in our complexion, is the principall cause of our olde age. And it is the same which *Aristotle* hath well obserued in the booke alleaged, whē he saith, that in euery thing wherein contrarie things concur, it must needes come to passe, that corruption

The causes of old age.

The inward causes of our death.

The contrarietie of the elements.

The operation of our naturall heate, is the second cause of old age.

doe followe. The other cause of our death and dissolution, is the worke and operation of naturall heate. Our life is stayed vpon two pillers, which are the radicall heate and moisture; the radicall heate is the principall instrument of the soule, for it is it that concocteth and distributeth our nourishment, which procureth generation, which stretcheth out and pearceth the passages, which fashioneth all our parts, which maketh to liue (as saith *Trismegistus*) all the seuerall kindes of things that are in the whole world, and gouerneth them according to their worth and dignitie. This heate being a naturall bodie hath neede of nourishment, the humour which is called the radicall moisture, is the nourishment thereof, as the oyle which is put into the lampes, doth maintayne and feede the flame; this humour once failing, it must needes fall out, that the natural heate shuld perish, but this humor cannot last for euer, seeing the natural heate is daily threatning & consuming the same. But thou wilt say, that it is continually repaired and renewed, and that the heate and moisture influent, which come from the heart, as from a liuely fountaine, and are conueyed along by the arteries, as through certaine pipes, may restore and put as much againe in place, as hath been lost and spent. But then I would haue thee to know, that the new reparations cannot be so pure, as also that it neuer falleth out to be in like quantitie. As for the purenes thereof, it is easie to see, that the moisture which commeth in place of that which was lost, cannot attaine the same degree of perfection with the former; for our solide parts wherein consisteth the foundation of life, are made of seede that is most pure, throughly wrought and concocted, and refined in all those turning and winding labyrinths, which are to be seene in the vessels of seede, and now they are nourished onely with blood turned white by vertue of the said solide parts, and that which passeth not through so many refining pipes, whereby it commeth to passe, that as wine the more that water is mixt with it, becommeth so much the more wateriſh, and in fine changeth altogether into water: euen so the radicall heate and moisture waxe weaker and weaker euery houre, by the coupling of them with new nourishment, which is alwaies infected with some aduersarie and vnlike qualitie. And seeing it is a generall vnchangeable and infallible rule in Philosophie, that

Our naturall moisture cannot be renewed with his first and former qualities.

euery

euery natural agent doth become a patient, and sufferer in the performance of his action, and so by consequent doth weaken it selfe: our naturall heate weakening it selfe euery daye, cannot repayre that which is lost, and place in other of the same degree of perfection; it must of necessitie therefore grow olde, and in time dye right out. And as for the quantitie of that which (as things that runne out) is wasted, it cannot be repayred altogether in the same proportion and measure, for the wast is incessant, but the repayre is by little and little, and that after an infinite number of alterations. See here how that which should preserue vs, doth ouerturne and destroy vs, and how our heate consuming our radicall moysture, doth thereby in the ende cut it owne throate. These two causes doe spring, growe and are nourished together with our selues. There is not that Phisition in the world, were it *Æsculapius* himselfe, which can saue and deliuer vs. All the precious licours that are, *Aurum potabile*, conserues of Rubies and Emeralds, *Elixir vitæ*, or the fained and fabulous fountaine of restored youth cannot withstand, but that our heate must at length grow weake and feeble.

The like quantitie of naturall moisture cannot be repaired.

Galen derideth very well an Egyptian Sophister which had drawen commentaries of the immortalitie of the bodie. If a man (sayth he) could when a thing is come to his perfection, renew the same, at that very instant, and make the principles thereof in like maner new, without doubt such a bodie would become immortall: but this thing being impossible, it must needes fall out that euery naturall agent must weaken it selfe, and so of necessitie waxe old. The men of Egypt & Alexandria did beleeue that the naturall cause of olde age did come of the diminishing of the heart: they said that the heart did growe till fiftie yeeres the weight of two drams euery yeere, and that after fiftie yeeres it waxed lesser and lesser, till in the end it was growne to nothing: but these are nothing but vaine imaginations and meere fooleries. We haue caused many old men to be opened, whose hearts haue been found as great and heauie as those of the yonger sort. There is then but two inward causes of our old age, the contrariety of the principles whereof we are composed and framed: and the action or operation of our naturall heat, which consisting in the consuming

The opinion of the Egiptians condemned.

of his radicall moisture, doth by little and little fall a drying and cooling of our bodies.

Outward causes of our old age, that cannot be auoided.

There are other causes also of our dissolution, which are outward and such as cannot be auoyded. For seeing that our bodies are compounded of three substances which are subiect to waste, the one wherof is subtile and of an airie nature, the second liquide, and the third solide: it must needes be that we haue some outward thing for to repaire them: otherwise our life would neuer last longer then the seuenth daie: for this is the terme which *Hippocrates* hath giuen to perfect bodies, and such as haue much naturall heate. That which repayreth our nature, is called nourishment, and it is three fold, the ayre, drinke, and meates: the aire vpholdeth and maintaineth the substance of spirits, the drinke, all that which is liquide, and the meate, that which is solide. This threefolde kinde of nourishment, how well soeuer it be cleansed and purified, hath notwithstanding euermore something disagreeing with our nature, and that so much, as that it cannot assimilate and turne it into it owne nature, and therefore maketh an excrement of it, which being retained, altereth the bodie, and maketh an infinite number of diseases. See and beholde how meates doe of necessitie alter our bodies. I leaue to speake of all other outward causes, (as ouer violent exercises, an idle and sitting life, long and continuall watching, the passions of the minde (which of themselues can make vs olde, as feare and sadnes) because we may in some sort auoide and shunne them. I leaue also to say any thing of chancing causes, or such as may befall vs by hap hazard, as hurts: I am onely purposed to shew that it is of necessitie that euery liuing creature must waxe olde, that he fostereth within himselfe, the naturall causes of his death, and that he hath outward causes thereof hanging about him, which cannot bee auoyded.

CHAP.

Chap. II.

A very notable description of olde age.

SEeing is is most certaine that our bodies, euen from the daye of our birth are subiect vnto many alterations and changes, the phisitions hauing regard vnto such alterations as are most sensible and apparant, haue diuided the whole life of man into many parts, which they haue called ages. The Egyptians haue made as many ages as there are seuens in the number of an hundred, for they verily beleeued that a man could not liue aboue a hundred yeeres. The Pythagoreans, which were very superstitious in their numbers, haue published in their writings how that in euery seuenth we feele some notable change, both in the temperature of the bodie, and in the disposition of the mind, and that al this ought to be referred and attributed to the perfection of the number of seuen. I purpose not here to discusse the question of numbers: I haue handled it largely enough in my third book of critical daies: it is sufficient for me to sit downe and rest my selfe with all the most famous writers, in saying that man following the naturall course of life, vndergoeth fiue notable alterations and changes in his temperature, and runneth through fiue ages, which are, Infancie, Adolescencie, Youth, Manhood or the constant age, and Old age. Infancie is hote and moist, but moysture exceedeth and keepeth heate so vndet foote, as that it cannot shew his effects, it lasteth till thirteene yeeres of age. Adolescencie followeth next, which yet is hot and moyst, but so as that heat beginneth to play the master: the sparkes thereof are seene to glitter, twinckle and shine in euery thing. In the mankind the voice groweth greater, all their waies and courses stretch and reach further and further, they cast their first wool. In the female kind their paps grow hard & great to the sight of the eye, their blood stirreth it selfe throughout all their bodie, and causeth it to giue place and make way for it, till it haue found out the doore: this age holdeth on to twenty foure or tweny fiue yeeres, which is the appointed and prefixed

Distinction of ages.

The opinion of the Egyptians.

The opinion of the Pythagorists.

Fiue ages.

Infancie.

Adolescencie.

Flouriſhing youth.

terme for growth After this commeth Youth, which is hot and drie full of heate, liuelihood and nimblenes: it hath his courſe till fortie yeeres. Then the bodie is come to his full ſtature, and this is called the mans age or conſtant age, it is the moſt temperate of all the reſt, participating the foure extremities indifferently, and continueth to the fiftith yeere. And there beginneth Olde age which containeth all the reſt of our life. But yet notwithſtanding, this olde age may further bee diuided into three ages: there is a firſt old age, a ſecond, and a third. I haue nothing to doe with that which is cauſed by ſickenes, and called *Senium ex morbo.* The firſt old age is called greene, becauſe it is accompanied with prudence, full of experience, and fit for to gouerne common weales. The ſecond beginneth at ſeuentie yeeres, and is incumbred with many ſmall diſaduantages, it is very cold and drie. As for the coldnes there are ſo manifeſt ſignes and tokens of it, that no man hath euer made anie doubt of it, for if you do touch them, you ſhall alwaies finde them as cold as yce, they haue no liuely or vermilion colour, all their ſences are weakened, and become ſubiect to an infinite number of colde diſeaſes: but as for the other qualitie which is drynes, ſome there are which take vpon them to ouerthrow it, and ſay that this old age is moiſt and not drie, becauſe a man ſhal ſee the eyes of theſe old men alwaies diſtilling teares, their noſe alwaies running, there commeth out of their mouth euermore great ſtore of water, yea, they doe nothing but cough and ſpet: but *Galen* anſwereth verie learnedly in his booke of temperatures, that old men are moiſt through a ſuperfluous moiſture, but that they are drie concerning radicall moiſture: and in the firſt booke of the preſeruation of the health he ſaith, that old men haue all thoſe parts drie which infants haue moiſt, that is to ſay, the ſolide parts, of which dependeth the conſtitution of the whole body. This is the opinion comming neereſt to the trueth, & which we muſt take hold vpon: for their leannes, wrinckles, ſtifnes of ſinewes and skin, and ſtifnes of ioints doe ſufficiently ſhew their drie temperature: the ringwormes alſo and itches ouer al their bodies, the ſcales which they haue on their heads, maketh it plainely appeare vnto vs that their braine is full of ſalt humors, and not of ſweete flegme. In the end commeth the laſt olde age, which is

Three degrees of olde age.

Old age.

The manly age.

The firſt.

The ſecond.

The temperature of old men, is cold and drie.

called

called decrepite: in which as the kingly Prophet saith, there is nothing but paine and languishing griefe: all the actions both of the bodie and minde are weakened and growne feeble, the sences are dull, the memorie lost, and the iudgement failing, so that then they become as they were in their infancie: and it is of these that the Greeke prouerbe (τοὺς γέροντας δὶς παῖδας, that is to say, that old men are twice children) is to be vnderstood. This last old age is described in the twelfth chapter of Ecclesiastes, in so notable an allegoricall sort, that there is not the like againe for excellentnes in all the world. It was also the greatest Philosopher and profoundest scholler in natures workes that euer was, which tooke the same vpon him: this is that sage *Salomon*, which elsewhere is sayd to haue knowne all the secrets and mysteries of nature, which hath discoursed of all the plants of the field, from the Ceder of Libanus to the Hissope which groweth out of the walls, that is to say, from the tallest and highest, vnto the least and lowest: for by this Hissope, wee vnderstand one of the capillar hearbes which is called *Saluia vitæ*, which is one of the least hearbes that may be seene. I will set downe the whole maner of this description from the beginning to the end, because that besides the pleasantnes of it, wee may reape instruction, and a plaine and manifest declaration of the thing we haue in hand.

The last degree of old age is called decrepite.

Remember (sayth he) thy Creator in the daies of thy youth, before the Sunne, the starres and light grow darke, and the clowdes returne after raine: for then the keepers of the house will tremble, and the strong men will bow themselues, and the grinders will cease and bee no more: in like manner, the lookers through the windowes will be darkened, the doores will be shut without, because of the base sound of the grinding: and he shall rise vp at the voyce of the bird; so shall all the singing maides be humbled, they shall feare the hie thing: the Almond-tree shall florish, and the grashoppers shall grow fat; the Caper-tree shall be withered, before that the siluer chaine doe lengthen it selfe, or the ewer of golde bee broken, and the water pot dasht in peeces at the head of the spring, or the wheele broken at the cesterne, and that dust returne vnto the earth, as it was from thence, and the spirit goe vnto God. See here the description of the last age, which is admirable,

An excellent Allegorie describing and laying out the estate of old age.

admirable, and which hath neede of a good Anatomiſt to helpe out with the true vnderſtanding of the ſame.

The interpretation of the Allegorie.

In decrepite old age the Sunne and ſtarres do waxe darke, that is the eyes, which doe loſe their light. The clowdes returne after raine, that is to ſay, after they haue wept a long time, there paſſeth before their eyes, as it were clowdes, being nothing elſe but groſſe vapours, which grow thicke and foggie. The keepers of the houſe tremble, that is, the armes and hands, which were giuen vnto man for the defence of the whole bodie. The ſtrong men bow, that is to ſay, the legges which are the pillars whereupon the whole building is ſet. The grinders doe ceaſe, that is to ſay, the teeth which ſerue vs to bite and chaw our meate. The ſeers grow darke by reaſon of the windowes: thoſe are the eyes which are couered and ouergrowne oftentimes with a cataract, which ſhutteth vp the apple of the eye, which is commonly called the window of the eye. The doores are ſhut without, becauſe of the baſe ſound of the grinding, that is the iawes, which cannot open for to eate any thing, or the paſſages of meate which are become narrow and ſtreite. They riſe vp at the voyce of the bird, that is to ſay, they can not ſleepe, and are alwaies wakened with the cockcrow. All the ſinging maides are abaſed, that is their voyce, which faileth them. The Almond-tree doth floriſh, that is the head, which becommeth all white. The graſhoppers waxe fat, that is, the legges become ſwolne and puffed vp. The Caper-tree withereth, that is, their appetite is loſt: for Capers haue a propertie to ſtirre vp appetite. The ſiluer chaine groweth longer, that is the faire and beautifull marrow of the back, going all along the bone, which groweth looſe and boweth, and cauſeth them to bend in the back. The golden ewer is broke, that is the hart, which containeth (much after the maner of a veſſell) the arteriall blood, and vitall ſpirit, which are ſomewhat yellow and of golden colour, which ceaſeth to moue, and cannot any longer containe or hold, much after the nature of a thing that is broken. The water pot is broken at the ſpring head, that is, the great veine called the hollow veine, which cannot draw blood any more out of the liuer, which is the common ſtore-houſe and fountaine which watereth all the bodie; in ſuch ſort as that it yeeldeth no more ſeruice then a broken pitcher. The wheele

is

is broken at the cesterne, that is, the reines and bladder, which become relaxed and cannot any longer containe the vrine. Then, when all this happeneth, dust (that is to say, the body which is materiall) doth returne to the earth, and the spirit (which is come from aboue) doth returne to God. Loe here the fiue ages described and bounded with their number of yeares, according to their seuerall contents.

That the number of yeares doth not make old age.

But I would not that from hence any man should so tye himselfe to the number of yeares, as that he should make youth and old age necessarily to depend thereupon: but that he would rather iudge thereof by the rule of the temperature and constitution of the bodie: for euery man that is cold and drie, is he whom I may call old. There are very many which become old men at fortie, and againe there are an infinit sort, which are young men at sixtie: there are some constitutions that grow old very speedily, and others very slowly. They which are of a sanguine complexion grow old very slowly, because they haue great store of heate and moysture: melancholike men which are cold and drie, become old in shorter time.

Why women grow old sooner then men.

As for the difference of sexes, the female groweth old alwaies sooner then the male. *Hippocrates* hath very well obserued it in his booke intreating of the seuenth moneth childbirth. The females (sayth he) as they are in their mothers wombe, are formed and grow more slowly then males: but being once out, they come sooner to growth, sooner to ripenes of wit, and sooner to old age, by reason of the weakenes of their bodies and of their manner of liuing. Weakenes maketh them to grow vp sooner, and to waxe old sooner: for euen as trees which are short liued, grow vp to their height by and by; euen so the bodies, which must not long continue, come very speedily to the top of their perfection. Their manner of liuing also doth make them to waxe old, because they liue as it were alwaies in idlenes. But there is nothing that hasteneth old age more then idlenes.

Chap. III.

An order of gouernment for the prolonging of the ſtrong and luſtie eſtate of man.

SEeing that the naturall and vnauoidable cauſes of our old age are three; as the contrarietie of the principles of our life, the waſte of radicall heate and moiſture, and the excrements which are ordinarily ingendred by our nouriſhment, it behoueth vs (if wee will keepe our bodies in good plight, and preſerue them from waxing old ſo ſoone) ſo to diſpoſe of and order theſe three things, as that the agreement and vnitie of the elements (which is called temperature) be throughly prouided for, that our heate and moyſture (which waſte euery houre) bee well repaired, and that the excrements (which hide themſelues and ſtay behinde in the bodie) bee hunted out. We ſhall obtaine all this very eaſily, by keeping good order of gouernment and diet, without hauing need to haue recourſe to Phiſicke. Now this name of Diet (as I haue alreadie ſayd) comprehendeth many things, all which may bee referred to ſixe. The Phiſitions call them, not naturall: becauſe that if they be rightly vſed, and that a man know how to make the beſt maner of ſeruice of them, they doe preſerue the health, and may bee called naturall. But and if a man abuſe them, if they be vſed either too little, or too much, though it bee neuer ſo little, they are the cauſes of many diſeaſes, and may be ſayd to be contrarie to nature. They are theſe which follow; the ayre, meat and drinke, ſleepe and watching, labour and reſt, emptines and fulnes, and the paſſions of the minde, which I am about to runne through in order.

Chap. IIII.

What choise wee must make of the ayre, for our longer life, as also what ayre is most fit for such persons as are old.

AMongst all the causes, which may alter our bodies, there is not any one more necessary, more headlong, or which concerneth vs more neerely then the ayre. The neede wee haue of it, doth sufficiently appeare in sicknesses, which abridge and depriue vs of breathing: for if it happen that any one of the instruments which are appointed either for the giuing of entrance, or receiuing or preparing of the ayre bee greatly impeached, the man dyeth by and by strangled, in so much as it seemeth hereby, that the ayre and life are things inseparable in all such kindes of creatures as are called perfect. The naturall heate (if wee beleeue *Hippocrates*) is preserued by moderate cold, and if you take the ayre away from the fire, which is as a continuall bellowes vnto it, it is quenched and choked incontinently. Our spirits which are the principal instruments of the soule, are begotten and nourished by the ayre, they doe not vphold nor purge themselues but by the passing of the ayre in and out: this is the cause also why all the bodie is porouse and perspirable, this is the cause why our arteries doe continually beate, and that nature hath made so goodly and wonderfull doores and entrances for the two vessels; in such sort as that I dare bee bold to say, that the ayre is as needfull for man, as life it selfe. As for the celeritie and swiftnes which it participateth, wee perceiue it euery day. In a trice it passeth through the nose to the braine; and pressing through a million of streits, which are to bee seene in the admirable net, it entreth in into the most secret chambers thereof, it dispatcheth it selfe downward after that, with like incredible celeritie and swiftnes, through the mouth vnto the lungs, and from thence vnto the heart, it pearceth (and cannot bee perceiued) the pores of the skinne, and entreth by the transpiration of the arteries vnto the most deepe and hidden corners of our bodies. This is a bodie so common and neere vnto vs, that it compasseth vs about

The necessitie of the ayre.

The quickne and celeritie of the ayre.

continually, without forsaking vs any moment, yea we must whether we will or no, make our daily supping meate thereof. Diuine *Hippocrates* hauing very well perceiued this powerfulnes of the ayre, sayth in his Epidemikes, and in his second booke of Diet, that the whole constitution of our spirits, humours and bodie, doth depend wholy vpon the ayre. Wherefore the chusing of a good ayre, and of a fayre and pleasant dwelling place, must alwaies in all good order of diet keepe the first and chiefe place. The Phisitions take acknowledgement of the goodnesse of the ayre by his substance and qualities. By his substance, as when it is well purified, not hauing any seeds of corruption in it, neither yet being infected with any venemous vapours, which might rise from dead bodies, priuies, and filthines of townes, or from the putrifaction of standing waters. There are also certaine plants which a man must hardly come neere vnto to make his ordinarie lodging, because they haue a contrary qualitie vnto the animall spirit, as the Nut tree, Figge tree, Colewort, Danewort, wilde Rocket, Hemlocke, and an infinite sort of others. The vapour of forges and mines, is a very great enemie vnto the hart, and causeth (as *Aristotle* obserueth) the greatest part of them which labour therein, to fall into a consumption.

Wherein the goodnes of the ayre consisteth.

If the ayre bee corrupted, and that wee cannot auoide it very quickly, wee must purifie it with artificiall fires, of Rosemarie, Iuniper, Cypers, Bay tree, and with parfumes of the wood of Aloes, Saunders, Iuniper beries, Fusses, and such other aromatical things. The vapour of Vineger doth marueilously correct ỹ maliciousnes of the ayre. As for the qualities of the ayre, all excesse of heat, cold, moysture and drines is euill: it must be chosen such as is (if it bee possible) of a meane temperature. It is knowne to bee such, if it grow warme shortly after that the Sunne is vp, and contrarily grow cold after the Sunne is set. If there cannot bee found an ayre of such a temperature, it were better that it were a little too drie, then too moyst. For (as *Hippocrates* saith in his fift Aphorisme of his third booke) drines generally is alwaies more holesome then moysture.

How to rectifie the ayre.

The signes of a good ayre.

For old persons there must choise bee made of a hot ayre, and their chamber must neuer be without fire: for it is very certaine,

What ayre is fittest for old folkes.

that

t hat they fare and do a great deale better in ſummer; becauſe they carrie a winter about with them continually. They muſt be lodged in a place that is raiſed hie, and their houſe muſt bee open on the Eaſt-ſide, that ſo the morning Sunne may come into their chamber; and on the North-ſide, the better to purifie the ayre, and to driue away al euill vapours. I will referre vnto this choiſe of ayre, the vſe of ſweete ſauours, which marueilouſly reioyce the heart and ſpirits. It is good daily to carrie ſome good ſmell, to keepe ones ſelfe cleanly and handſome, and to change ones linnens very oft. The ayre then, if it haue all theſe properties, will ſerue to repaire our firſt ſubſtance, which the Phiſitions call ſpirituall, which is ingendred, nouriſhed, and preſerued by the ayre.

Chap. V.

Generall rules to be kept in eating and drinking, for the longer preſeruation of life.

MEates and drinkes muſt keepe the ſecond place: for the one repaireth the loſſe of that which is liquide, and the other doth preſerue and vphold that which is ſolide. I will not here particularly deſcribe all the meates which may hurt or profit; or which are of a good or euill iuyce, let thoſe which are diſpoſed reade what is written by *Galen* in his bookes of the properties of nouriſhments, and in his bookes of the preſeruation of health. I will onely in this chapter deliuer the generall rules, which I haue drawne out of other Phiſitions, and aboue all out of *Hippocrates*, which ſhall ſerue all ſortes of ages to keepe them from growing old ſoone, and the firſt of them is this.

A man muſt neuer eate but when he hath ſome feeling of hunger: for the ſtomack maketh ſmall reckoning of ſuch meates as it coueteth not, and oftentimes diſgeſteth better the worſt ſorts of meates when it receiueth them with an appetite, then the moſt delicate which doe not delight and pleaſe it. This rule is to bee found in the 38. Aphoriſme of his ſecond booke. The ſecond rule is, that the meate be well chawed before it be ſwallowed: for there follow two diſcommodities when it is ſwallowed before it bee well chawed; the firſt is, that one ſhall eate more then he ſhould, The firſt rule. The ſecond.

and thereby ouercharge his ſtomacke; the other is the great a doe that the ſtomacke hath to concoct that which is not chewed. The teeth and mouth doe as much ſeruice and helpe in making preparation for the firſt diſgeſtion, as the ayre doth for the cookes, when it maketh their meate tender: and this is the reaſon why they which haue many teeth doe liue long, namely, becauſe they chaw their meate well. This ſentence is to be found in the ſixt ſection of the 2. booke of Epidemicall diſeaſes. The third rule is, that wee muſt beware of glutting the ſtomack: for he that would liue long, muſt riſe vp from the table alwaies with ſome hunger. The reaſon is very apparant, becauſe if you loade your ſtomack too much, you put the naturall heat (being the principall inſtrument of the ſoule) to too much paines, and cauſe it to languiſh in the end, becauſe euery natural agent, doth ſuffer in doing. *Hippocrates* hath very wel noted the ſame in his 6. book of his Epidemicall diſeaſes. This (ſaith he) is one of the principall heads for to preſerue health, not to feed vnto the full, and not to be ſlow to labour. The fourth rule is, not to eate of moe then one or two ſorts of meats: for varietie hurteth infinitly and ouerthroweth our ſtomacks, becauſe meates are not all of one qualitie, and by conſequent one degree of heat will not ſuffiſe: ſome ſortes are concocted ſooner, and other ſome more ſlowly, ſo that thereby all the kitchin is out of order. You may ioyne hereto, that eating varietie of meates and ſawces, a man is conſtrained to drink the oftner: but this maner of drinking doth hinder diſgeſtiõ, as you ſee that the putting of water ſundry times into the pot, doth hinder the broth from boyling. Therefore you muſt neuer abuſe the ſtomack, although it be very good, becauſe that if you diſpleaſe the cook, you are like to dine but badly. Reade the worthie ſentence of *Hippocrates* in the 3. ſection of his 6. book of Epidemicall diſeaſes. The ſlothfulnes of the ſtomack (ſaith he) commeth of the diſordering of the whole bodie, and of the impuritie of the veſſels. And as fulnes doth greatly damnifie, and fill al full of crudities; euen ſo too much abſtinence may heap a whole meaſure of diſcommodities vnto the health, becauſe the ſtomacke being emptie, doth fill it ſelfe with euill humours. And *Galen* alſo obſerueth, that a famiſhed ſtomacke, if it bee not ſatisfied with ſome delectable licour, draweth firſt from the braine a world of

The third.

The fourth.

water,

water, and after that the grosseſt excrements, that are in the gut *Ileum*. The fift rule teacheth to obſerue ſuch an order in eating, as that thoſe meates which are eaſily corrupted be firſt eaten, becauſe that if they be taken in the end, they deſtroy and corrupt the others: ſuch as are concocted with leſſe paines, and ſooner diſgeſted, ought firſt to enter into the ſtomack: but groſſe meats, hard and heauie meates ſhall be the laſt, quite contrary to the faſhion of our artificiall kitchins. Such meates as are apt to looſe the bellie, as plums, apples and potage, muſt alſo be the firſt. The laſt rule is, that wee muſt accuſtome our ſelues to eate more at ſupper then at dinner, I meane if the bodie be ſound and not ſubiect vnto rheume. The reaſons thereof are very plaine: for there is more ſpace from ſupper to dinner, then there is from dinner to ſupper, ſo that there is more time to concoct and diſtribute the nouriſhment. It is moſt certaine that when we ſleepe, heat is ſtronger, for that it withdraweth it ſelfe wholly vnto the center of the bodie. I will adde thereto how that to make good diſgeſtiō we haue need of reſt: but in the night al the animal functions ceaſe, there is nothing to draw aſide our heat, ſo that it may concoct a great deale better. Thus alſo haue all the famous and great Phiſitions, *Hippocrates*, *Galen* and *Auicen*, determined the caſe. Thus haue all the elder times practiſed. Wreſtlers (as *Galen* obſerueth in the fift booke of the conſeruation of health) did neuer eate fleſh but at their ſupper. The Pythagoreans (as *Ariſtoxenus* writeth) tooke nothing to dine withall but a little bread with honey: and during the ſiege of *Troy*, the Grecian ſouldiers (if wee giue credit to that which *Philemon* reporteth) made foure meales a day, but they tooke nothing but bread and wine at the three firſt, and at the laſt which was their ſupper, they did feede vpon porke. Behold here the generall rules which are to bee obſerued in eating, whereto I will adde for an end, that the fitteſt houre to eate at, is that houre of the day which is moſt temperate, as in winter that which is moſt hot, in ſummer that which is moſt freſh, and that alſo with ſome moderate exerciſe hauing gone before.

The fifth.

The ſixt.

CHAP.

Chap. VI.

How we must in particular nourish old folke, and with what maner of victuals.

The victuals wherewith old men are to be nourished, must bee prouided according to the degrees of their old age. The first kind of old age which is yet greene and strong, may take direction from all those rules, which I haue set downe in the chapter going before: but the other two kindes of ages, haue neede to bee guided after this fashion. They must bee heated and moystned, because their temperature is cold and drie. Let them therefore haue euen all of them, their lodging in a very warme ayre, and let their chamber be neuer without fire. In seruing them with meate, there must regard be had of the quantitie, qualitie, and maner of vsing of it. As concerning the quantitie, wee must neuer ouerloade them with much meate, because (as *Hippocrates* obserueth in the fourteenth Aphorisme of the first booke) they haue very little quantitie of naturall heate, and that would be quenched, as it falleth out when a great deale of wood is cast vpon a little deale of fire, and furthermore (as the same author sayth) because they can indure fasting very easily. As concerning the qualitie, it is requisite that their meates be of good iuyce and easie disgestion, and of a light matter, in as much as the substance of old folke doth not lightly wast and spend it selfe. They must be forbidden all slimie, grosse, windie, flegmaticke, melancholike and obstructing meates, which may stop the passages. The maner that they must be made to vse in taking them, is to nourish them a little & oft, principally those which are of a decrepite age: others which remaine somewhat lustie, shall bee content with three meales a day. So were the two old men fed, of whom *Galen* speaketh in his fift booke of the preseruation of health, that is to say, *Antiochus* the Phisition, and *Telephus* the Grammarian. Their bread must bee of good wheate well baked, leauened well, and hauing a little salt mixt with it; they must not eate it hot, because it is not so easily disgested, it maketh

The qaantitie of their meate.

The qualitie.

keth a great deale more alterations in the bodie, ingendreth obstructions, and sendeth many vapours to the braine, it must bee of the same day or two daies old, if it passe three daies it drieth too much, and staieth too long time in ỹ stomack. Al maner of cakes made with cheese, milke, butter; & all other sorts of vnleauened bread, are very hurtfull vnto them. Flesh is a very good nourish- Flesh.
ment, for it nourisheth much, and turneth easily into blood. All flesh that is hard of disgestion and clammie, is altogether contrarie vnto this age; the flesh of birds is sooner concocted, then that of foure footed beasts; and such as feede in drie places are more holesome, then those which feede in waterish places. Wee must make choise of such flesh as is of a middle age, for old folke: for young flesh is too moyst, and old flesh is too drie. Their nourishment must be of good Capon, Chickens, Partridge, Feasant, Hen, Mutton, Veale, Godwit or Morehen, and yong Pigeons. The Arabians highly commend Turtle doues, because they turne into good iuyce, and make all the sences the more subtile and fine. Some there bee which praise porke, because it commeth next in temperature vnto man: but I forbid it vnto old men, because it ingendreth much superfluous moysture. All the braines of beasts are hurtful vnto the stomacke; liuers doe ingender a grosse blood; the vtmost parts, as the head, the tayle and feete, are hard of disgestion, and of small nourishment. The flesh of Lambe, Beefe, Wild-bore, and birds of the riuer, are naught for the stomackes of old men; they must haue made some delicate gallimaufrie with some sauce, good coolasses, gellie, and white meate. Egges Egges.
new layd and soft are very good for them, for they nourish much and quickly; if they be hard or fried, they be naught, because they ingender a grosse iuyce, and stay too long in the stomacke. Potched egges are most holesome; and those which are boyled in hot water (which *Ætius* tearmeth to stifle) are much better then them which are rosted in hot ashes, because they are boyled in euery place equally and alike. But in what manner soeuer they bee eaten, they must bee eaten alwaies with salt, to the end they may goe out of the stomacke the sooner: the white of the egge doth nourish but a little, and troubleth the stomacke. The vse of fish is Fish.
contrarie to their age, they may eate of a Rochet, Sole and Trout,

but they must be sowst with salt, sage, fennell and wine. Meates of a sharpe taste and which bite a little, as also powdred meates, are not euill, because they stirre vp the appetite, awake naturall heate, and consume all that store of grosse flegme which is within the stomacke. It is good to spice their meates, with Pepper, Ginger and Cinamome, and to vse gray mustard. Onions and Garlike are not euill for them, if they loue them, and haue been accustomed to eate them. Cheese is naught: butter is wholesome for them, because it moystneth and heateth them, and also gratifieth the breast: sweete oyle Oliue is also excellent good. Milke is good for some: but in such as are subiect to many obstructions it rather doth harme. They of old time haue much esteemed the vse of Honey in this age, spreading it vpon their bread, putting it in their sauces, and almost in all their meates. Raw fruites, and such as are very moyst, are not good for them, because they are easily corrupted. Damaske and dried Raisines are good for the liuer, stomacke, reines and bladder. Almonds doe procure sleepe, increase (if we beleeue *Auicen*) the substance of the braine, and cleanse the passages of vrine. Drie Figs, Pistaces, Dates, small nuts rosted, nuts confected with Honey, Mirobalanes, Oliues, and Pine-apples are very fit for old men.

Spices.

Fruites.

Chap. VII.

What maner of drinke is best for old folkes.

DRinke is as necessarie and profitable for olde men, as it is hurtfull for children. There is an old prouerbe which sayth, that olde folke liue onely on the pot, as old Eagles doe vpon the iuyce of carryon. Wine is all their refreshment, and therefore some doe call it old folkes milke; it heateth all their parts, and casteth out the waterish parts of the foure humours by vrine. *Plato* in his second booke of Lawes writeth, that wine heateth the body, and reuiueth the drouping spirits of old men, euen as the yron relenteth with the heate of the fire. *Zeno* sayd oftentimes, that wine

The praise of wine.

wine correcteth and maketh pleasant the manners of the most harsh and churlish natures. One of the most renowmed Phisitions that euer Arabia bred, writeth, that yong folke must refraine wine: but so soone as they bee fortie yeeres olde, looke how oft they either see or smell it, they ought to praise God, and giue him thankes for creating of so pleasant and delightsome a licour. The wine that is chiefly to bee made choise of for old folke, must be an old, red, and good strong wine, and it must not bee much delayed. New, sweete and grosse, are not good, because they stop the liuer, the spleene and passages of vrine, and make old age subiect vnto the dropsie or stone. It is not good to drinke wine fasting, nor after that one is throughly heated, because the vapour thereof ascendeth by and by vp into the head, hurteth the sinewes, and causeth conuulsions, sudden rheumes and apoplexies. Olde men must drinke a little at once and oft. *Galen* commendeth artificiall wines, made of Betonie and Parcelie, for the Stone and Goute, Hippocras, Malmesie and Candie wine; foreseene that they be not counterfeited, neither yet contrarie to their natures. Honyed water is commended of all men, they may vse the common for their ordinarie drinke, and the other (which is called the counterfeite of wine, being strong like vnto Malmesie) they may take in the morning with a toste,

What wine is best for olde folke.

Chap. VIII.

Of the exercises of old folke.

IT is most certaine, that all manner of nourishment how cleane and pure soeuer it bee, hath alwaies something in it not agreeable vnto nature. It must necessarily therefore follow, that in euery concoction there be ingendred some excrement, which being kept and not auoyded, may bee the cause of an infinite sort of diseases. The grosser kinde of excrements doe purge themselues, by a sensible and manifest kinde of euacuation: but the more subtile and fine may be wasted and resolued by exercise.

The neceſſitie of exercise.

This is the cauſe why diuine *Hippocrates* in his bookes of Diet, hath affirmed, and that very well, that man cannot liue in health, if he ioyne not labour and foode together, becauſe (ſayth he) that the one repayreth natures expences, and the other ſpendeth her ſuperfluities and ſurcharging burthens. *Plato* in his *Theætetus* writeth, that exerciſe vpholdeth and preſerueth the good ſtate of the bodie, and that idlenes on the contrarie doth ouerthrow it. Exerciſe moderatly and orderly vſed, preuenteth repletion, the meere nurſe of a thouſand diſeaſes, increaſeth naturall heate, keepeth open both the ſenſible and inſenſible paſſages of the bodie, maketh the bodie plyant and nimble, prepareth and diſpoſeth all the ſuperfluities and excrements, as well vniuerſall as particular, vnto auoidance, ſtrengtheneth the ſinewes marueilouſly, and maketh all the ioynts more firme. And this is it which *Hippocrates* ſaith in his Epidemicall treatiſes, that as ſleepe is requiſite for the inward parts, ſo labour ſerueth to ſtrengthen the ioynts. There is a notable treatiſe in *Celſus*, which I muſt not paſſe ouer with ſilence. Sluggiſh ſlothfulnes (ſayth he) doth make the bodie looſe and heauie, but paines and labour doth make it firme and nimble: idlenes maketh vs ſoone to waxe old, and exerciſe preſerueth our youthfulnes long and many yeares. But we muſt carrie our ſelues cunningly in the manner of our exerciſes: firſt, it muſt bee done before we eate, becauſe thereby wee awake naturall heate, that it may be the readier to diſgeſt, and not aſleepe when it ſhould bee doing his dutie. *Hippocrates* his Aphoriſme is moſt plaine and euident: Let labour goe before meate. This exerciſe muſt be moderated according to our meate: for they that eate much, muſt worke much; and they that eate but a little, muſt labour the leſſe. This exerciſe alſo muſt be moderate and equall. I call that moderate, which maketh not wearie: and I call that equall, which exerciſeth all the parts of the bodie both vpper and lower alike. Violent and vnequall exerciſe ouerthroweth the ſtrongeſt bodies, weakeneth their ioynts, and maketh all the muſcles looſe, wherein conſiſteth a part of nimblenes. The morning exerciſe is beſt, or elſe at after dinner when the two firſt concoctions are perfected: that which is vſed by and by after meate, begetteth an infinite number of obſtructions, filleth the veines with raw humours, and

How we muſt vſe our exerciſes.

cauſeth

causeth the meate to descend too soone out of the stomacke. In winter we must walke more swiftly, and in summer more softly: and alwaies the Phisition must haue regard to that whereunto the partie is accustomed: for as *Hippocrates* writeth in his second book of Aphorismes; They which are accustomed to take paines, doe beare it the more easily, although they be weake, and come to old age. There are vniuersall and particular exercises. The vniuersall (if a man can do them) are the better: and amongst them, one praiseth especially the ball play, foote-walkes, and riding. The particular are fricasies, which auaile much to the stirring vp of naturall heate, to make attraction of nourishment to any part, and to consume the vapours and excrements of the third concoction, which lie lurking oftentimes in the voide spaces of the muscles and among the membranes.

Old folke must content themselues with moderate exercise, for feare that the little naturall heat which they haue should be spent. Frications, or rubbing of the parts are most fit for them. They must be rubd and chafed in the morning after they be awake, vntill the parts begin to bee red and warme. The rubbing must begin at the armes, and from thence to the shoulders, backe and breast, from thence we must goe downe to the thighes, and rise vp againe from thence to the shoulders; the head must bee the last, which must be combd and trimd vp euery morning. There are other particular exercises of the eyes, voyce and breast, which are of vse. The exercise of old folke.

Chap. IX.

What rules are to be obserued in sleeping.

Sleepe is one of the chiefe poynts of well ordering and gouerning ones self: cõcerning which there are certaine generall rules to be obserued of thẽ which are desirous to keep back and hinder the hastie accesse of old age. It is good (saith *Hippocrates*) to sleepe onely in the night, and to keepe waking in the day time. Sleeping at nooneday is very dangerous, and maketh all the body

heauie and blowne vp. It muſt be obſerued not to goe to bed vnder three or foure houres after ſupper, and then alſo to take a little walke vp and downe the chamber before you goe into bed. The beſt and moſt naturall ſleepe is that which laſteth ſeuen houres, and in that time not to haue ouer many clothes vpon the bed, to the end the vapours may haue the freer paſſage. One muſt ſleepe hauing their head ſomewhat raiſed, leaſt the meate ſhould riſe from the bottome of the ſtomacke vnto the vpper mouth thereof; and in ſleeping he muſt not lie vpon his backe, leaſt the ordinarie excrements of the braine, which are purged by the noſe and mouth, ſhould fall vpon the backe bone; and leaſt alſo that by lying vpon his backe, he ſhould heate the groſſe hollow veine and great arterie, which are faſtned to the loynes, and ſo theſe veſſels thus heated, ſhould increaſe the heate of the reines, ingender the Stone, and ſend great quantitie of vapours vnto the braine. It is good to take his firſt ſleepe vpon the right ſide, for feare the liuer ſhould fall vpon the ſtomacke and oppreſſe it, as it would doe if he ſhould lie vpon the ſpleene; and further becauſe that lying on the right ſide, the liuer vnderlaieth the ſtomacke, and ſeruing it in ſtead of a chafing-diſh, helpeth diſgeſtion very much. After this he muſt turne him vpon his left ſide, to the end that the vapours retayned by lying on the right ſide, may breathe out: & finally he muſt lie vpō the right ſide, to the end that what ſhalbe concocted, may diſcend the more eaſily. The parts of the bodie muſt not be ſtretched out al along in ſleeping, they muſt be ſomewhat drawne vp: for as *Galen* obſerueth in his firſt booke of the mouing of the muſcles, the reſt of the muſcles conſiſteth in a meane kind of contraction. And that is the figure, which the Anathomiſts call the meane or middle figure, which is moſt naturall and leaſt painfull. And thus much for the generall rules of ſleepe, which ſeeing all old men cannot tell how to keepe, we will permit them to ſleepe a little after dinner, in as much as they cannot but lie waken almoſt all nights long. Some referre the cauſe of their lying awake to their temperature, which is drie, and to the ſharpe vapours which commonly are raiſed of ſalt flegme.

CHAP.

CHAP. X.

How we must make old folkes merrie, and put them out of all maner of violent passions of the minde.

PLato in a Dialogue, which he intituleth *Carmides*, writeth as the trueth is, that the most violent and dangerous diseases that the body suffereth, doe come from the minde: for the minde (sayth he) hauing a soueraigne power and absolute authoritie to command the bodie, moueth, altereth, and chaungeth it in a moment as it pleaseth. How many diseases doe we see to rise, and to bee cured by the onely force of imagination? How many examples haue we of such as sudden and extreame ioy hath brought vnto their end? And griefes, pensiuenes, and sadnes, doe they not cast vs headlong into an infinite number of melancholike diseases, which serue for a scourge vnto the Phisition, and their owne confusion for their obstinacie? Wee haue read many histories of such as haue growne white haired in foure and twentie houres, vpon feare onely and a conceited opinion of death. So that hee which would liue long and in health, must keepe himselfe as much as he can free from all violent passions. But olde men more then any other must beware, both because they are ordinarily more subiect to feare, taking of offence, and waywardnes, because of their cold distemperature: as also because of the weakenes of their braine. And other men must indeuour to take from them all occasion of feare and sadnes, least they should thereby become more cold. There is no danger now and then to moue their choler, thereby to rouse them vp and warme them a little: they must bee made merrie as much as may bee, and euery thing ministred vnto them that may content and please them. But for as much as all the pleasures and displeasures which wee feele in our mindes, doe rise from the sences, which are the trustie spyes, and faithfull messengers thereof, wee must (if wee will content and please olde men,) flatter and tickle their sences, the

The power of the minde ouer the bodie.

the ſight, hearing, ſmelling and taſte, in prouiding for euery one of them, matters that are moſt agreeable and fit for them. The eye delighteth it ſelfe wonderfully in the beholding of beautifull women; and I am of opinion that ſuch ſight onely will content old men. Varietie of flowers, and diuerſitie of faire colours doth reioyce them infinitly. They muſt weare continually ſome one or other rich and precious Iewell, and amongſt others the Saphir and Emerauld, becauſe there is not any other colour that doth preſerue and comfort the ſight ſo much as doth the greene and violet. The hearing hath his particular delights, which pearce yet more deeply, and ſound the very bottome of the minde. Muſicke with voyces and inſtruments, doth calme and make gentle the moſt outragious, rough and ſterne natures. *Clinias* (as I haue obſerued in the treatiſe of melancholike diſeaſes) ſo ſoone as he ſaw any paſſion to aſſaile him, tooke his harpe, and by this meanes kept away the motions of his humour. Old men muſt be held vp with ſuch diſcourſes as they like of; they muſt bee praiſed, they muſt bee flattered, they muſt not bee gainſayd in any thing, and there muſt bee propounded vnto them matter which may pleaſe them, and whereunto they haue been brought vp; as lucre and gaine vnto the marchant; great exploytes and feates of armes, to the warriour; learned diſcourſes, to ſuch as are learned: for theſe doe hold them awake and content. Witneſſe hereof is that good old man and graue law-maker *Solon*, who being in his death-bed, and feeihg two or three of his friends whiſpering together, for feare they ſhould offend him, did liſt vp himſelfe luſtely, and deſired them to ſpeake aloude, thinking himſelfe moſt happie if at his laſt houre he might learne any thing. As concerning the ſence of ſmelling, it is moſt certaine that good ſmels doe make the heart ioyfull and merrie, and purifie the ſpirits. I am of opinion therefore, that it were good for olde men to carrie about them ſome good odours, as chaines and balles of Muske, that they haue alwaies in their chamber ſome good parfumes, that they waſh their beards, hands and faces with ſweete waters. As for the taſte, it is to be referred vnto the victuals, and for it there muſt daily bee prouided ſome daintie diſh, and ſome one meate or other that is ſharpe in taſte, to ſtirre vp their appetite. Behold therefore and

The pleaſures of ſight.

The rauiſhment of the eare.

The pleaſures of ſmelling.

The pleaſures of the taſte.

ſee

see wherein consisteth the maner of dyet to be obserued of olde folke: and it behoueth (that I may make an end of the whole discourse) that euery one become wise, to know his naturall inclination, and that experience of such things as do him good or harme, make him a maister and Phisition vnto himselfe.

Chap. XI.

What medecines are most fit for olde folke, and by what meanes, the discommodities of olde age may be amended.

SO many are the discommodities which olde age bringeth with it, as that the learned of olde time did thinke it to come neerer to the nature of a disease then of health. You shall see olde men commonly to be costiue, to abound with fleagme, and sharpe wateriſh humours, which causes some small itchings and burning of vrine, they are all full of windines, and feele an vniuersall weakenes ouer all their bodies, because they haue a weake stomacke, and the naturall heate of their whole bodie is faint and languishing, they are in a maner altogether subiect to rheumes, and cease not either to cough, spit, or weepe. All these infirmities may be prouided against by some gentle and delightsome medicines. And first of all, the bellie must be made good, (that is to say loose) with artificiall brothes, which may bee prepared diuerse waies. Take of the tender crops of Mallowes, of Mercurie, Garden and wilde Artichoke, and of the hearbe called Cynocrambe, boyle them with a Chicken, and take it in the morning. The broth of red Coleworts with oyle, is very good, but the broth of a Cocke is the excellentest of all the rest: it must be made thus. Take an olde Cocke, pull him and beate him well, afterward kill him, and hauing taken out his guts, wash him twise or thrise in white wine, and stuffe his bellie with a handfull of the rootes of Percely, the leaues of Borage, Bugloſſe, Burnet, Mercurie, Artichoke of the garden and field, fat Figs, damaske Raisins, Dates, Iuiubes, the seed of Carthamus and Hisope, boile all these together perfectly, and

The discommodities waiting vpon old men.

How the belly may be kept soluble.

A laxatiue broth.

The broth of a Cocke.

afterward straine them very well for the purpose, and cause it to be taken three dayes together. Some put thereto a little of the salt of Tartar, to giue it some sharpenes. This broth serueth exceeding well for olde men, for it keepeth the bodie loose, cleanseth the waies of Vrine, and is very profitable for the breast, and shortnes of breath, whereunto they be subiect. Suppositories must be ordinarilie vsed of them, as also mollifying Clysters. *Galen* would not that we should vse any strong and sharpe Clysters, he resteth contented in the onely vse of oyle Oliue. For inward Laxatiues I like well and allow of the pills of Hiera, of Aloes well prepared, and those which are called Mastichinæ. Turpentine cleanseth and purgeth all the inward parts, without danger for the weakenes of their stomacke, and to discusse the windes which put them to paine, the roote of Ginger confected, Lozenges of *Aromaticum Rosatum*, sugard Anise seede, Cinamome water, the essence of Anise seede, of Iuniper berries and Cloues is commended. To stir vp the heate which may seeme to be asleepe all ouer the bodie, I finde nothing better, then to cause them to take oftentimes the weight of two French Crownes of Amber Grise in a very new egge. I allow also of the vse of Treacle, Mithridate, Confectio Alkermes, Aquæ Theriacales, Imperiales, and Cælestes. The compositions whereof I set not downe, because they are at this day very common. All the parts also may be strengthned with outward medecines, as the braine by caps and head powders', amongst which *Auenzoar* praiseth Cloues powdred and scattered vpon the Coronall suture, the heart by emplasters, oyntments, and bags, the stomacke by oyntments and bags. Finally, we must thinke, that all aromaticall things, and those which smell well, are good for olde folke.

Remedies for the weakenes of their stomacke.

To stirre vp the heate of olde folke.

FINIS.